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American Railroad Journal.

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Saturday, August 2, 1851.

European and North American Railroad.

A convention of the friends of this project was held in Portland, Maine, on the 22d ult., which was very largely attended by the leading men of that state. General Samuel Fessenden presided, and made an exceedingly happy and effective speech. The executive committee of the corporators, through their Chairman, John A. Poor, Esq., submitted a report embracing a statement of the progress and the present condition of the enterprize. Mr. Poor—after alluding to the convention on the 2d of August last, as the first social re-union that had ever taken place between the people of sister States and Provinces, after seventy years of separation, when the descendants of a common race, the Anglo-Saxon brothers, after this long period of partial estrangement, and continued political separation, having outgrown and forgotten the differences of their fathers, came together upon the broad platform of a common ancestry, and a common sympathy, to lay the foundation of an enterprize of a deep but a common interest to them all—went on to say that—

It was proposed to extend a line of railway, which should connect colonies and states, and which would bring in its train, freedom of intercourse, and the common alliances of social and commercial fellowship and fraternity. Eschewing all political purposes it looked forward to an inevitable reciprocity between the British provinces and the United States. The railway is not an end; but a means; a means of social and commercial advancement—an instrumentality, by which great interests were to be subserved—by which the raw materials and the rich products of one portion of the country may be exchanged with those of another. We want the coal, the iron, the plaster and the grindstones of Nova Scotia and New Brunswick, and they in turn want the sugars, the farming utensils, the hats, shoes, and the other manufactures of New England. We want a railway across the breadth of our own state, to bring all our people in easy communication with each other. More than all this, we want to open out a line of railway toward the nearest available point of this continent to Europe, in order to save expense in sending forth or in procuring our supplies from Europe. Instead of seeing all the trade between this country and Europe passing almost in sight of our own coast, and going down on the great sailing circle, some five hundred miles past us, to New York; and from thence re-shipped back to us, we want the trade across the Atlantic, and the travel across the Atlantic, reduced to its lowest cost, and to the shortest distance of time, to bring the producer and consumer of both continents in closer proximity.

The plan agreed upon at the Portland convention, he believed, was the only one that could legitimately or profitably be carried out. The idea was, to carry out this work in separate sections, by different communities, all working in subordination to one general plan, so that a continuous line of railway, under private management, should eventually extend from the cities of Bangor, of Boston and New York, to the eastern shore of Nova Scotia, upon the Atlantic ocean.

The beauty of this plan was its simplicity, its coincidence with the natural laws of trade; its adaptation to the wants of the people of Maine, New Brunswick and Nova Scotia. The idea was purely commercial. Railways for military or political purposes were neither in accordance with the spirit of the age, or of the spirit of railway progress. They have never been successful, and they never will be. Railways require, in order to be successful, the application of private selfishness, individual thrift and energy in their management.

It was with a spirit like this, and with opinions like these, that the resolutions of the Portland convention were adopted. In accordance with these views, have been the proceedings of the committee. In Maine, our application for a charter was promptly responded to by the Legislature, and the necessary survey at once undertaken at the expense of the state.

In New Brunswick similar measures were adopted, and everything done that the most ardent friends of a railway could desire. So that from the city of Portland east to the boundary of Nova Scotia, the way has been prepared for the carrying out of this great work, as far, and as fast as private enterprize shall supply the means. It is questionable in my own mind, whether any resort to public credit, is either necessary or desirable. New Brunswick, however, tendered further assistance, to the amount of \$1,250,000 by subscriptions to the stock, and a free gift of all the ungranted crown lands lying within five miles, on each side the line. Had Nova Scotia adopted a similar policy, the road may be looked upon as secured. Had the Nova Scotians gone home, and gone to work as the people of New Brunswick did, the history of the enterprize would have been a continued series of successes and of triumphs.

Unfortunately for this scheme, in Nova Scotia, political matters are paramount to all others.—Among the men who had given the readiest support to the plan for calling the Portland convention, was the Hon. Joseph Howe, well known as a political leader in Nova Scotia. Mr. Howe expected to have been present, or rather agreed to have been present, at the Portland convention, but was prevented by official engagements. His intimate political friend, Hon. Mr. Uniacke, the Attorney General of Nova Scotia, took an active and influential part in its proceedings, and was appointed one of the executive committee for Nova Scotia.

The ministerial party in Nova Scotia were thereby regarded as fully committed to the plan of the Portland convention. On the return of the delegation to Halifax, the Hon. Mr. Howe seeing the enthusiasm for the railway which had been kindled among the delegation, and anxious to share the honor of taking a leading part in its management, introduced into the public meeting called to receive the report of the delegation, a resolution of the most extravagant character, proposing to have the railway undertaken as a government measure, by the colony, and built at the expense of the government.

This one important step has given a new turn to political affairs in British North America, if not seriously retarded the progress of the Lower Provinces.

Having become committed to the plan of a government railway, Mr. Howe felt the difficulty of carrying it out; or of securing a majority of the house of assembly of the provinces without the co-operation of the home government, and he goes out to England to build Nova Scotia's part of the line of our road.

Recollect, that at this time the Quebec and Halifax line had been abandoned. The plan of the Quebec and Halifax railroad was started in 1845, as a rival project to head off the Atlantic and St. Lawrence railroad. The provinces of Canada, New Brunswick, and Nova Scotia united in an applica-

tion for a survey, to the home government, which survey was ordered—commenced in 1845 or 1846, and finished in 1849.

The report of Mr. Robinson's survey was referred to the railway commissioners, and their report condemned the scheme as entirely destitute of commercial advantages—and they stated that the *Portland and Montreal railroad had such decided advantages as to preclude all hope of competition with it, for the trade of the St. Lawrence valley, by the Quebec and Halifax line.* Canada, Nova Scotia and New Brunswick, however, united in offering to the Imperial government a grant of land on each side the line, and an annual payment of £20,000 sterling each, or £60,000 sterling in all towards paying the interest on the cost, if the Imperial government should undertake to build it, for its own uses and purposes.

The Imperial government by their dispatches of April 5, 1849, and June 19, 1850, refused to undertake the work upon the pledges previously given, and, in all the language of the resolutions of the legislature of New Brunswick, of April 5, 1850, these refusals "induced the people of this province to turn their attention to the accomplishment of undertakings, which it would be in their power to carry out, and which from their prospect of more immediate remuneration would hold out greater inducements to capitalists to embark therein."

They accordingly entered into engagements to build the European and North American railway, and the St. Andrews and Woodstock road.

At the time of the separation of the Portland convention, the plan of the Halifax and Quebec road had been practically abandoned in all the provinces. Quebec had turned her attention toward building a line to Melbourne, connecting herself with Montreal on the one hand, and with the Atlantic ocean and the lower provinces on the other.

Mr. Howe went to England as the delegate from Nova Scotia to advocate the European and North American railway. His first communication on the subject does ample justice to the claims of our enterprise.

The British government will decline to embark in the scheme. Mr. Howe turned his attention from the government, to the people of England. He delivered lectures on emigration and colonization in Southampton and elsewhere, and joined hands with the tory leaders, to help to stir up the Irish members, to join in opposition to the Russell ministry.

During the period when Lord Stanley was attempting to construct a tory Cabinet, Mr. Howe secured assurances favorable to the Halifax and Quebec line from the tory leader, and he gave up the European and North American railway to be come the advocate of the imperial railway!

Lord Stanley, the great tory leader, in the month of February last, came out in an elaborate speech in the house of lords, in advocacy of the Halifax and Quebec line on the grounds of colonization and colonial empire. He was supported in this by the late whig Chancellor of the Exchequer, Spring Rice, now Lord Montagu.

On the return of the Russell ministry to place again, Mr. Howe succeeded in appealing the fears of the ministry, and instead of carrying out the enlarged, liberal and philanthropic spirit which characterized his countrymen in the Portland Convention, he appealed to the ancient prejudices of England against the United States and revived the bloody scenes of our former wars. He was supported in this by the tory party in England, and the peaceful, international and philanthropic spirit of the convention, was changed by the interpretations of Mr. Howe into one of propagandism, by which the integrity of the empire was threatened.

In this spirit the old cast off plan of the Halifax and Quebec line was revived, and the British ministry directed Earl Grey, to direct Mr. Under Secretary Hawes, to say to Mr. Howe that the British ministry would recommend to Parliament that the money required should be advanced from the imperial treasury to build a line of railway "passing wholly through British territory from Halifax to Quebec or Montreal." Any deviation from the line recommended by Major Robinson and Captain Henderson, must, however, be subject to the approval of her Majesty's government."

"It will further be required that the several pro-

vincial Legislatures should pass laws making the loans which they are to raise a first charge upon the provincial revenue, after any existing debts and payments on account of the civil lists settled on her Majesty by laws now in force; and also that permanent taxes shall be imposed (or taxes to continue in force till the debt shall be extinguished) sufficient to provide for the payment of the interest and sinking fund of the loans proposed to be raised discharging the above prior claims. It will further be necessary that the expenditure of the money raised under the guarantee of the imperial parliament shall take place under the superintendence of commissioners appointed by her Majesty's government, and armed with sufficient power to secure the application of the funds so raised to their intended object. The commissioners so appointed are not however to interfere with the arrangements of the Provincial governments except for the above purpose."

"The right of sending troops, stores, and mails along the line at reasonable rates, must likewise be secured."

"It is also to be understood that government will by no means object to its forming part of the plan which may be determined upon, that it should include a provision for establishing a communication between the projected railway and railways of the United States."

"It is under this last clause that Mr. Howe claims to have secured the money to build the European and North American railroad. And here is the turning point of the whole question. Mr. Hawes says the government will "by no means object to its forming part of the plan which MAY be agreed on," &c.

The whole is a matter of contingency. It may or may not be agreed upon, and it may or may not be the purpose of the British ministry to manage the building of the European and North American railway. If in their wisdom they choose to discountenance the work, they can easily find words to excuse themselves from any supposed pledge which the peculiar phraseology of man may seem to convey."

At the recent convention held at Toronto, the instructions to Lord Elgin under Earl Grey's note of March 14, it now appears that the European and North American railway formed no portion of the scheme there discussed. Mr. Howe found Canada generally indifferent, if not unfriendly to the Quebec and Halifax line, considered as a road between the two cities only. The Canadians demanded on a condition of their acceptance, the application of all the money to the extension of a trunk line from Halifax towards Toronto. The seven millions sterling proposed by Mr. Howe, they require to be all laid out in one line, extending it as far as possible toward Toronto from Halifax. The Hon. Mr. Howe, in his speech at Montreal, two weeks ago, told the Montreallers that he had secured the money "to build the great trunk line all the way from Halifax to Montreal."

The Hon. Mr. Hincks, on the 12th of July, introduces into the Assembly of Canada, his eighteen Resolutions, claiming the Imperial guarantee or an advance from the Imperial Treasury of money enough to build from Halifax to Hamilton, twelve hundred miles, and it is insisted that on these terms only, will Canada come into the scheme.

One thing is quite certain, if Mr. Howe is to build the Imperial railway all the way to Montreal as he told the Montreallers in his recent speech, there will be nothing left for New Brunswick toward building the European and North American railroad. They may rely upon that.

Under this state of things our friends in New Brunswick are anxiously awaiting our movements. They ask nothing of the British Government, but the privilege of building railways for themselves in their own way. They have not shirked the labor, like the Howe Ministry in Nova Scotia.—They have gone to work in the right way by helping themselves. They granted a noble charter.—This is reluctantly assented to. They passed Facility Bills in aid of the road. These bills are withheld by Earl Grey until the charter shall be amended, providing especially for the transportation of *Her Majesty's troops* and for securing Imperial control over such portion of the route as may be wanted in the Halifax and Quebec line.

The course of the British Government in reference to the European and North American railway has caused a feeling of general discontent in the Lower Provinces. The Provinces desired a line of railway connecting them with the railways in the United States. New Brunswick made no claims for Imperial assistance, and yet the British Ministry attempt to force upon her a line she does not want. True she is not directly required to pledge all her revenues to maintain this grand Imperial Military line, by the way of Restigouche and Lake Metis. But her integrity is questioned if she demurs to this imperial suggestion. In 1849 the Railway Commissioners, in answer to Earl Grey's inquiries, pronounce the Halifax and Quebec railway impracticable for all commercial purposes and valuable only as a military work to secure the more easy maintenance of British power in the territory; and yet Earl Grey in March, 1851, gravely calls on the Governor General to require "that a deputation from the Executive Councils of the two Lower Provinces should proceed to the seat of Government in Canada, in order to confer with your Lordship and with your Council for the purpose of coming to some agreement upon the subject, which, after being approved by the Legislatures of the several Provinces, might be submitted for the sanction of Parliament."

How could Earl Grey, or the British Ministry, consistently, by implication even, form the plan of embarking many in this undertaking, which in 1849 was deemed so utterly unworthy of confidence, and which every man in British North America knows cannot for many years, at least, pay its running expenses? Still I derived the impression from a conversation with Lord Elgin a few days ago, that he regarded the British Government as sincerely desirous of seeing Earl Grey's scheme adopted and carried into effect.

This plan is favored as a means of retaining the North American Colonies, and the great question among English Statesmen now is, *shall Great Britain retain her Colonies?*

The last number of the Edinburgh Review, contains an interesting article on this subject, and may be regarded as expressing the present feeling of the Whig Ministry on this question.

That she may long retain the British American Colonies, I sincerely desire. If she will only give them *responsible government*, or the right of self government, her people can enjoy an amount of political freedom, with entire relief from taxation, beyond what are known to any other people. Still they must and will have free trade with us. Shut out from the markets of Europe by their geographical position, they require to trade with the United States. This we are disposed to give to the fullest extent, on terms of *entire reciprocity*.

Their natural products are wanted by us, and she in return can more easily and cheaply buy of us, whatever she requires from abroad, than from any other people. It is this feeling that brought the Portland convention together. It is this feeling that now controls the public feeling of New Brunswick. It is this feeling that led the Legislature of New Brunswick to say with an unanimity unparalleled in her Legislature, by the Resolutions of April 5, 1851, that "she cannot adopt the plan suggested in the correspondence between the Hon. Mr. Howe and the Right Honorable Earl Grey, accompanying His Excellency's Message; and is not prepared to pledge the public credit, or the future resources of the Province, further than is set forth in the address before mentioned, towards building the Great Trunk Line from Halifax to Quebec."

Her facility will enable her to build from St. John to Calais. But if she requires assistance, because that measure is withheld—or because the patriotism of her people may be tempted by the offer of Imperial assistance, or her Representatives tampered with by the mercenary appeals made through the pocket—there is still left to us the opportunity of carrying forward the work under the broad and liberal charter already secured.

The people of the United States will not allow this opportunity to pass by unimproved, and when our brethren of New Brunswick shall lay the claims of their road before the people of the United States, they may rely upon a favorable response.

The Colonial policy of Great Britain is in a fair

way of being tested. The ill-digested system by which her Colonial Empire is now held together, must soon be put to its severest test.

English colonies were once governed by an absolute executive. Her colonial governors, like the Roman pro consuls, exercised imperial authority in the name of the crown. The Saxon blood asserted its right to share the authority in making laws, and Provincial Parliaments have grown into use wherever the Anglo Saxon race has planted its feet. Concessions from time to time have been granted till the recent experiment has been attempted in British North America of "RESPONSIBLE GOVERNMENT." This principle is now asserted in all the British America, and the model of the English constitution is copied, an executive holding place by Imperial appointment instead of hereditary descent. The difficulties of this system are already apparent in the constant interference of Imperial with Colonial interest. Canada sought to protect her iron manufactures by a discriminating duty, and the dispatch of Earl Grey informed the Governor General of Canada in 1848, that it would interfere with the interests of Scotland, and was therefore against the interests of the people of the Empire. New Brunswick has just granted a charter for the European and North American railroad, and Earl Grey requires the charter to conform to Imperial wishes and necessities. In other words, the colonies may legislate for their own interests, when in the opinion of the English ministry they do not jeopardise Imperial interests. These Imperial interests are not defined by any written law or constitution, but depend for their importance on the ministerial idea of the hour.

A conflict of interests must sooner or later come up. The interests of the North American Provinces, with their abundant natural resources are more in unison with our own, than with Imperial, European policy—and nothing short of a total surrender to the colonies of the management of their local, physical and commercial affairs, or an incorporation of the colonies into the nation itself, as an integral part of the Empire, will satisfy the advancing spirit of progress, and free opinion in British North America.

In abandoning the principles of responsible government, and yielding to the imperial demands, Mr. Howe will find in the carrying out of his railroad schemes full play for his versatile and imaginative powers. He now assures us, in the strongest terms, of the certainty of bringing the iron locomotive by rail, from Halifax to the boundary of Maine, as soon as we can give him a similar track from the eastern boundary of Maine to Portland. But if he fails in bringing the discordant elements of Canadian legislation into harmony with that of New Brunswick and Nova Scotia, he will then renew his pledges to the Portland convention scheme, build the road as we must build ours, through private exertions, and join us at the same time and place at the boundary.

With these assurances before us—with the correspondence of the British government in our hands, showing their appreciation of the scheme—with the testimony on all hands of the practicability and paying qualities of our whole line, will not the people of New England and the United States generally contribute in the form of subscriptions to the stock, the one million of dollars which we require to secure this great work.

Mr. Poor, (says the Portland Advertiser) then gave in detail the plans of the corporators and of the committee. Books are to be opened on the 20th of August, in many places in this and other States, and an effort was required, to induce the people in each town in Maine, to do something in aid of the work.

He then alluded to the effects of the enterprise upon the future interests of Maine and the whole Union, and its probable effects upon the social and commercial condition of the race. His remarks were repeatedly interrupted by earnest cheering, and received with great attention.

Mr. P. Barnes, after making some inquiries as to the precise condition of the enterprise in New Brunswick and Nova Scotia, entered into a series

of observations, showing the vast importance of this work, and the necessity of giving an earnest, vigorous and impressive response to the noble stand, and the admirable resolutions of New Brunswick.

A series of Resolutions were then passed, declaring that the enterprise of the European and North American railway, as developed and recommended by the Portland Convention in August last, having been further sanctioned and tested by the results of careful scientific explorations and estimates, and by the concurring and repeated expressions of a wide spread public opinion, wherever its plans and objects have been made known, continues to merit and command the warmest favor of the authorities and the people of the State of Maine, and that the investigations made by the Executive Committee of the enterprise, and by the corporators, have satisfactorily shown, that the great communities through and near which the line of the railway will pass, can command ample resources for its construction, and that all the auspices of the enterprise, at the present time, indicate that the controlling parts of the line can and ought to be built, and especially that measures should be taken without delay for commencing that part lying within the State of Maine, and that efforts should be made to obtain subscriptions to the amount of \$1,000,000, which sum would justify an immediate commencement of the work. New Brunswick was highly complimented for the manner in which she had acted towards the enterprise; and a confident expectation was expressed that the Province of Nova Scotia would speedily and effectively reunite with her sister Province, in securing this great band of commercial intercourse, which by its direct connection with all the great railway lines of the United States and of Canada, will combine for their common advantage the commercial sympathies and movements of all the Anglo Saxon race on this continent.

The above Convention was one of great interest; and from the magnitude of the project, we have presented copious extracts from the report of the committee. It appears to us to state, in a full and succinct manner, the history of this enterprise, which has now so intimately connected itself with the colonial policy of Great Britain, to which it has given a new feature, and which must be followed by very important results.

For the American Railroad Journal.

The Proposed Mohawk Valley Railroad.

This project, which for a while seemed to excite so much attention, has received its quietus from the deliberate judgment of men of sense, and of capital. They have decided, as they could not have failed to do, that no more fatal blow could be struck at legitimate enterprise, at the stability of property, and at plain common sense, than the encouragement of such a scheme. The idea that another road could be made, which should be worth anything, along side of a complete double track railroad in perfect operation, and free from debt, is entirely absurd. What a silly act, to speculate upon the cost of the existing road. *It is paid for.* It is in perfect condition. So far as respects a rival road, it is the same thing whether it cost more or less, for the owners of this property will not suffer such rival to spring up, and take its business.—Being paid for, and in skilful hands, it would soon cool the hopes of any adventurers, who might embark their money in such a project. The Utica and Schenectady railroad could do ten times the

business that it now does. We repeat, then, how absurd to think of getting away its business. The same quixotic adventure was often tried by opposition stages, which always failed, simply because those having the ground, the stock and the spirit, would put down the fares to such rates, as would destroy the new aspirants. So it is in the case of steamboats on the river. These are plain practical views, that show the utter absurdity of an attempt to get the business of a strong, existing, independent, establishment. It is a kind of business that men who have nursed will not surrender.—There are other views in relation to this. A road along side of the Utica and Schenectady road could do nothing, because it would have no connections. It could not now stop at Buffalo even, but must go to Cincinnati. Freight and passengers will not go half way in one line, and then shift to another.—The companies on the Central line are all connected, through several corporations. They have each a careful, watchful administration. They look well to both their through and way business. They meet and settle, after mutual explanation, such a course of business as will best advance the interest of the whole line. Then they carefully conduct the expenses of each corporation, so as to make the best revenue, practicable, for their shareholders. The property, and the men, in service of each company, are constantly under the close examination of the owners of the stocks of these companies, who live along the line, and who thus so successfully conduct them. It is this course of management—it is the fact, that there are several companies so united—that has made the railroad property between Schenectady and Buffalo so valuable.—The very nature of their business, and the mode of its management, shows that a rival road along side of either, would be as lifeless an affair as could be conceived of. It will show also the success of this mode of management, over that of a great company, whose agents are far removed from the seat of power, and where all the matters having weight cannot be seen. The corporations alluded to, exemplify well the success of men who attend to their own business, while other large and extended lines may show how business is done by agents.

The Mohawk Valley railroad project has been an interesting matter to those who might desire to see how far men would go in a race of folly, and how many could be deluded by the humbug idea, that a railroad is valuable in proportion to the strength of a powerful, complete, paid for road along side of it. The report of the commissioner and chief engineer of this proposed railroad, and the estimate of the cost of its construction, having lately appeared, let us examine its details, and see whether the misstatements and omissions in the estimate, may not lead to a doubt of their being entirely reliable.

The report of the commissioner appears to be almost wholly taken up in giving the statistics of the Erie canal, and Utica and Schenectady railroad in the same valley; and presents a singular contrast from the same author, when writing upon a similar subject some years since, upon the statistics and commerce of the New York State canals.—Then every view of the subject was gloom, despondency and ruin, but now an unusual brightness is given to the picture, and a coloring that seemed to anticipate some personal considerations, not fully expressed.

It is true the Erie canal has been eminently successful, extending its benefits far beyond the limits

of this State, and with proper management, and a prudent reduction of toll, as the business increases, may continue so for all time to come. But does this prove that it would be a paying project to make another canal along side of it from Utica to Schenectady?

The Utica and Schenectady railroad has also been a good investment for money, and with their previous high prices, and good management, have been able to divide a little over ten per cent. per annum to their stockholders; and with their perfect connections, with the roads at either end, in this great channel of business, may be enabled to retain their present income, and their present low fare may possibly be reduced, with the increase of trade and travel, and thus in the best manner accommodate the public; but should this rival road be constructed, it would doubtless be at nearly an equal cost with the other, and could hardly fail to result in an entire loss of the capital expended in its construction, as one road properly equipped and managed, in connection with the canal, not only is abundantly able to do all the existing business, but could do ten times as much.

The engineer's report goes fairly into the merits of the project, but it contains so many omissions in the estimate, as to create doubts whether it is not a report got up to order, to enlist a limited number of stockholders, who would be hereafter compelled to raise additional funds to complete the work, or sustain a total loss of the money expended. That the work is feasible, no one acquainted with the subject will question; but that a road should be either made, or estimated, without being gravelled for one-half of the distance, may well be doubted. The rolling stock of ten locomotives, twenty passenger cars, and one hundred freight cars, is entirely inadequate for the daily trains now in operation on the other road; for it will readily be seen, that to do a successful business, this new road must compete for all the business, and with every train, whether their cars be loaded or empty, and the eight trains of cars per day each way, would require at least double the number of locomotives estimated for by the engineer, and if stocked as well as the Utica and Schenectady railroad, or the Syracuse and Utica, it would require twenty-five engines to run the trains, so as to compete with any effect, and the passenger and freight cars must be increased in the same proportion.

The Utica and Schenectady railroad has the most ample terminations in the cities, and encounters but one important rock excavation, and but four villages on the route, and the entire north valley of the river enabled the engineers to select a good route, and many years since to procure the land under favorable circumstances.

The new road must purchase their depot grounds in both cities. They would encounter four extensive rock cuttings, three formidable side hill excavations, and passes through nine considerable villages, besides the disadvantage of the Erie canal, now occupying the best location in the valley upon the south side of the Mohawk river. The rock excavation at Little Falls will be truly formidable, and those at the "Big Nose," and the "Little Nose," and at "Flint Hill," will be expensive, and this last place of rock excavation is estimated at ninety cents per cubic yard, by the engineer, a little more than half the price paid by the State for the same work.

He attributes the great expense attending the slides "Yankee" and "Devenport" hills, to a

want of proper slope in the original construction of the Erie canal, but he fails to inform us by what means this expense of 32 feet in width of excavation for his railroad is to be guarded against, when a 10 feet in width berm for the canal has cost so much annually for the past 20 years. Besides all these difficulties, and the necessary provision for freight stations not fully estimated, there appears to be an entire omission of the usual ten per cent. to cover contingencies, such as unforeseen work, law expenses in procuring land titles, failures of contractors to perform their work, etc.

The addition of these various items, with others not noticed, would add materially to the total cost, and would not probably vary much from the following:

His estimate for a double track railroad is.....	\$2,706,107 62
Gravelling 38 miles from Canajoharie to Schenectady (omitted in the estimate) at \$3,000.....	113,000 00
22,000 cubic yards of rock excavation at Flint hill, at 70 cents extra.....	22,400 00
Extra for land.....	180,000 00
12 locomotives—extra, \$8,000.....	96,000 00
20 passenger cars " 2,000.....	40,000 00
100 freight " 700.....	70,000 00
Extra for freight and passenger depot	120,000 00
Add 10 per cent. for contingencies....	334,850 00
	\$3,683,357 62

These additions will not appear unreasonable to any one conversant with the subject; it is less than the cost of the equipment of the Utica and Schenectady road, and he has estimated for the transportation of 91,000 tons of the 98,000 tons carried last year by the other road, in making up his 11 per cent. income. Some persons not over nice, might not be able to see why the Utica and Schenectady railroad company should give up quietly 91,000 tons of their freight out of the 98,000 which they have carried.

Both the commissioner and engineer have drawn largely upon their imaginations, as was very necessary, in making up the income of their favorite railroad route, and very large allowances should be made to their estimates, both in their receipts and expenditures, as well as upon the sum on which they propose to make dividends. While this central line has a superior position beyond its rivals, it is not to be denied that the New York and Erie railroad with its branches made, and those in progress of construction, or contemplated, terminating at various points, to induce trade and travel from this central line, together with the Northern railroad, and the various Pennsylvania and Southern roads, competing for this same western business, will doubtless to some extent prevent its rapid increase; and these various channels of trade, and the constant reduction of prices, with the present low fares, should have some little influence in the estimates of new and opposition parallel railroads.

On the extravagant supposition, however, that the new road is completed, and fully equipped, and in operation, would not the competition inevitably lead to low fares and prices, so as to destroy the profits? Similar results have happened in other places, and with the roads, their cars and engines in view, and in the same valley, for eighty miles in length, with eight or ten trains per day each way, they would probably ensue in this.

HERKIMER.

Plattsburgh and Montreal Railroad.—The ground for this road was broken on the 16th ult. The ceremony was attended by a large concourse of citizens who, as they had a right to do, manifested a deep interest in the enterprise.

Indiana.

Madison and Indianapolis Railroad.—The semi-annual report of this company shows the condition of their business on the 1st of July 1851, as follows:—

Balance from January 1st, 1851.....	\$4,749 52
Receipts from transportation.....	151,503 95
Receipts from Mail, 4th quarter, 1850.....	1,864 29
Running service on Bellefontaine road.....	1,035 21
Running service on Peru road.....	545 85
Received for work done in shops for other roads.....	8,244 96
Miscellaneous sources.....	1,995 72

Total\$169,939 50

Amount expense charged.....\$110,254 34

Less amount for new cars provided for by Bonds, but charged to expense account..... 27,600 00

One half of tax suspended account.... \$82,654 34

Amount to balance..... 75,989 79

Total\$169,939 50

Amount of nett profits as above, admitting of a dividend of 5 per cent.. \$75,989 79

The Receipts show a large increase compared with the corresponding months last year.

Receipts for transportation for six months just closed.....\$151,503 95

Amount same six months 1850..... 100,153 60

Increase..... \$51,350 35

—being a fraction over fifty-one per cent.

The amount of nett profits here presented, says the report, does not do full justice to the actual earnings of the road.

We have deducted one half of a tax account, that has been suspended from circumstances connected with its assessment during three years... \$11,295 37

The government is in arrears 6 months

Mail pay..... 3,728 58

We have graded principal portion of a double track between Edinburgh and Columbus, and paid freight on iron..... 4,283 44

We have hauled our own iron and ties for twenty six miles of road relaid, actual expenses of hands and trains not less than..... 3,000 00

We have paid for a year's supply of wood, \$10,882 61, one half or more of which is on hand..... 5,441 30

Total\$27,748 69

Nett earning as above..... 75,989 79

Total.....\$193,738 48

The track is generally in good condition, and the whole will be completed with T rail in a few weeks.

Important Railroad Enterprise.

The Mayor and Alderman of Nashville voted on Tuesday a subscription of \$50,000 stock in the Nashville and Chattanooga railroad company as stock in the Winchester and Alabama road, which is to be immediately surveyed, put under contract, and hastened to an early completion. This will connect Nashville with the Selma road at Gunter's landing on the Tennessee river, thence with the Alabama river, and thence, by uninterrupted navigation, with the Mobile Bay. When this line of improvement shall be completed, it is estimated that Nashville will be placed within fifty-two hours of New Orleans.

The Nashville manufacturing company, encouraged by extraordinary success thus far, have resolved to increase their capital and commence at once the manufacture of locomotives—having already engaged the services of one of the best locomotive builders in the United States.—*Louisville Journal.*

Illinois.

Railroad from Springfield to Bloomington and Peoria.—The following is the proposed route of the northern extension of the Alton and Springfield road: From Springfield it crosses the Sangamon river between Fancy Creek and Wolf Creek; it then passes in a direct line one and a half miles west of Elk Heart grove, to the Rocky Ford crossing of Salt Creek; there diverging to the right, the survey passes on the divide between Sugar and Kickapoo creeks, over very fine ground, to Bloomington. The Pekin and Peoria branch will diverge to the left, one mile north of the Rocky Ford, and cross Sugar creek sufficiently to the east to head Prairie creek, and will extend on a straight line near Delevan, through Circleville to Pekin, crossing the Mackinaw near Circleville. From Pekin to Peoria bridge the route of the survey is not yet definitely located. It is said that the citizens along the line of the road are deeply interested in the enterprise, and will do all in their power to further its progress.

Aurora Extension Railroad.—The Board of Directors of this company have recently been in session, and have made arrangements, it is stated, to put the road under contract by October next. It is thought that the Aurora Extension company and the Galena and Chicago company will consolidate their interests. A resolution was passed increasing the capital stock to \$600,000.

Lawrenceburg and Indianapolis Railroad.

We regard this as one of the most important roads leading to this city. When completed it will be the most direct route to Cincinnati, the distance only being about one hundred and ten miles. The whole road will be of the same gauge, so that there will not be any change of cars, thus lessening the cost of transportation. This advantage will not be possessed by any other route, so far as we are informed.

Some persons entertain the idea that a railroad direct to Cincinnati, would not benefit this city.—We are of a different opinion. Thousands would annually be saved in transportation of produce and merchandize.

On the completion of the Terre Haute railroad to the immense coal fields of Putnam and Clay counties, we shall be able to get this article at a lower rate than it can be afforded at Cincinnati.—It enters so largely into the expense of manufacturing that we shall then be able to compete with Cincinnati herself in the manufacturing many articles, and can send them by railroad, to that market for sale.

It seems to us that our citizens have not given this road that attention its merits deserve. It is true that those able to take stock had engaged in other roads previous to the commencement of the Lawrenceburg road. This is the reason why nothing has, as yet, been done by them. Several of those roads are now near their completion, and we hope those who have been so instrumental in their construction will now push forward this road.

George H. Dunn, Esq., is the President of the road, and is doing all in his power to hasten its completion.—*Indiana State Journal.*

Alabama and Mississippi Railroad.

We are well pleased to learn that the Directory of this road have engaged the services of our townsman, W. S. Burr, Esq., as agent for the road to solicit subscriptions to the capital stock of the company.

This company are proceeding upon a very safe plan—to get a large part of the stock subscribed before commencing the work of construction—and there is no one in the country half so well qualified for the task he has undertaken as Col. Burr.—His earnestness of purpose—and his great information upon the subject of the railway in all its relations to the best interests of the country, give good guarantee that this road may soon be looked upon as a fixed fact.—*Selma Paper.*

Extension of the Baltimore and Ohio Railroad.

This great work, after resting for many years at Cumberland, has again taken up its line of march for the Ohio. The first opening beyond the above point, was celebrated on the 22d ult., in a style altogether suited to the magnitude of the event. On Monday the 21st an express train, having on board the President and Directors of the company, the Mayor and city Council of Baltimore, and a numerous party of invited guests, left Baltimore for Cumberland, and on the succeeding day made the opening excursion as far as Everett tunnel, a distance of 32 miles from the last point. The company after inspecting the tunnel, and looking out upon the peaks of the lofty mountains beyond, which "the first ray of morning gilds, and on which the last departing rays of the sun linger and play," returned to the Piedmont station, where a dinner was prepared for them in the new store house of the company in that place. After this was properly discussed, the company were entertained by a number of highly interesting speeches from gentlemen connected with the road, and from the invited guests. The first gentleman to speak was Thomas Swann, Esq., President of the road, who commenced by alluding to the vast labor which had been imposed upon him since his connection with the company, a period of three years. He had endeavored to serve the company to the best of his ability, and if in anything he had done, he had contributed in the smallest degree to the prosperity of the city of Baltimore—to the advancement of her industrial classes—he had already been more than compensated for the days and nights of toil which it had been his lot to encounter.

Mr. Swann then paid a high compliment to the engineering corps of the company, for the skill exhibited by them in the construction of the road, and for their activity and energy in keeping their pledges to the public. The Baltimore and Ohio railroad he pronounced to be without parallel in the Union. He had recently made himself acquainted with the New York and Erie railroad, which is the most extensive line of railroad in charge of one company in the world. It was 467 miles long, and had already cost \$27,000,000. "But" said Mr. Swann, "I deem it my duty to say here, and I say it with pride as a Marylander—I say it in justice to the Chief Engineer of this company, who may not feel himself at liberty to speak with the same freedom that I may do, on a subject with which he is so intimately connected, that whether considered in reference to its engineering features—the boldness of its design, or the obstacles, formidable as they have been, with which it has had to contend from its origin, the Erie road cannot be named in the same category with the stupendous work which lies before you."

He had seen it stated with some degree of triumph, that the earnings of the Erie road were for the month of June, \$225,000; but this was upon a cost of \$27,000,000, and the road was completed to its western terminus, Lake Erie, fully equipped and possessing for the public all the attraction of novelty. On the other hand, the earnings of the Baltimore and Ohio railroad, with a capital of less than \$9,000,000 invested in that part of the road which is already in use, terminating in the gorges of the mountains, depending almost exclusively upon its local trade and travel, produced during the same month of June, a revenue of \$110,000—nearly one-half of what this great New York enterprise. When your road is complete and fully graded for

two tracks, it will have involved a total outlay of less than \$16,000,000, against \$27,000,000, expended upon the single track of the Erie road. Is it, said Mr. Swann, too much to anticipate now, that we may at least expect to compare favorably with what is now admitted to be the greatest railroad enterprise in this country!

Mr. Swann then proceeded to speak of the proposed connections with the Baltimore and Ohio railroad. As this subject is now attracting unusual attention, we choose upon this point to give his own words:—

Gentlemen, I fear that I may be presuming upon your patience—(cries of no, no, go on, go on, from all parts of the house.) I have said that I could see nothing in the future which should impair confidence in the ultimate success of this road. It is known to you that the Legislature of Virginia, at its last session, passed a law incorporating a company to bring you in connexion with Parkersburg on the Ohio river—a point which, for twelve years, this company had been fruitlessly striving to reach and from thence with a road extending through Cincinnati to St. Louis in the far West. This, gentlemen, is the greatest railroad charter that has ever emanated from a Legislative body. To the people of northwestern Virginia, the city of Baltimore, and the Baltimore and Ohio railroad company, its advantages cannot be over-estimated. Its withering effect upon rival interests is already beginning to show itself, in the spasmodic efforts that are now being made in certain quarters, to arrest its progress. (Cheers.) I have seen it publicly proclaimed by a prominent member of the Board of Directors of the Pennsylvania Central road, that this road never would be built. By what authority does he undertake to speak for the city of Baltimore? Gentlemen, I am not over sanguine in my temperament—I am not apt to anticipate results; but I feel justified in saying, that when this great north-western charter shall be presented to our people—when Baltimore shall be called upon for her contribution to carry it out, it will excite a more wide spread interest—it will ensure a more united and liberal support, than any work which has engaged the attention of her citizens, since the origin of their present system of internal improvements. (Loud and continued cheering.)

Gentlemen, I have authority for stating, (the success of rival interests to the contrary notwithstanding), that the northwestern company will be organized in less than ten days from this time.—Arrangements are already in active progress, to have the route surveyed and prepared for contract; and I indulge the firmest conviction, that within the period limited by her charter—within twelve months after your road is opened to Wheeling—the great straight-line road, the "forlorn hope," as it has been called in Philadelphia, will be put in connexion with Parkersburg, and it may be with the city of Cincinnati.

I am not one of those gentlemen, if any there be, who advocate the Wheeling terminus because I believed it to be the best point of contact with the Ohio river; but because in the then state of our relations with the State of Virginia, it was the best that could be accomplished. If we had not accepted the charter of 1847, you would not now have to congratulate yourselves upon the right to connect with Parkersburg by the independent charter of the North Western company. I deem it of vital importance to this community that there should be no longer delay. I could not stand by with my arms folded and see the city of Baltimore cut off from all the bright and encouraging prospects, which for twenty years she had so fondly indulged, while so many and formidable interests were in motion.—(Cheers.) I see no reason to regret the policy of the company. Its wisdom has been more than confirmed by events that are daily passing around us. The Central Ohio road, it is known, must terminate at Wheeling. That city must become the entrepot of a valuable trade, which could not be reached by a connexion farther South; and her shortest and best outlet to the sea-board is by the Baltimore and Ohio railroad.

I have heard a great deal, gentlemen, of late about the Hempfield road, connecting the city of

Wheeling with the Central Pennsylvania line. I confess I do not feel sufficiently informed to speak here of its plans or prospects. The cost of this road has been estimated by competent judges at \$3,000,000, and Philadelphia we are told is to build it. How this may be, gentlemen, I do not pretend to know. I may venture the suggestion, however, that with the rivalry of the Baltimore and Ohio railroad on the one hand, and the Parkersburg road on the other, private capitalists may hesitate some time before they embark \$3,000,000 in any such enterprise. And why should Philadelphia in her corporate capacity, build a road from Greensburg to Wheeling to destroy Pittsburg, if such is to be its effect, when it is demonstrable that she can get an easier and better line to connect with the Central Ohio road at Wheeling, at one-half the cost of the Hempfield road?

Gentlemen, it strikes me as somewhat remarkable, that Philadelphia, after all her efforts to build up Pittsburg, and they have been creditable to her State pride, should now have discovered that her salvation depends on cutting loose from that city, and following the Baltimore and Ohio Railroad to its formerly despised and ridiculed terminus at the city of Wheeling. [Loud cheering.]

Pittsburg charges her with perfidy and endeavors to turn away from her in disgust. Why is this, gentlemen? why all this excitement? Is it because the Baltimore and Ohio railroad company have selected a better terminus than Pittsburg? Is it because Philadelphia has no confidence in the policy of the Central Pennsylvania road in selecting a point which has signally failed to secure the trade of the West? Whose fault is it that Philadelphia is to be involved in this immense additional outlay to repair errors which are now so boldly and unblushingly admitted?

Gentlemen, as an evidence of the excited state of feeling now prevailing among our Pennsylvania friends, I have a letter of recent date on my table in Baltimore, from a most respectable source, proposing to re-open the subject of the Connellsville and Parkersburg charter, with a view to an early connection with this road. Now, I wish it to be understood that I never at any period objected to a connection by railroad with Pittsburg, under proper circumstances, and at a proper time. I consider Wheeling a better terminus for the Baltimore and Ohio railroad than Pittsburg—and I am equally candid in saying that I should have considered Pittsburg, if it had been offered to us at the time this road was put under contract, a better point than either. When the paramount claims of both these roads are disposed of—and they cannot be disregarded,—it would be the interest of the people of Baltimore to encourage by every proper means in their power, a communication with the great and populous city of Western Pennsylvania.—Gentlemen, it is your true policy to invite connections from whatever quarter they may come, and to give aid and assistance to all such as may be likely to contribute to the augmentation of your trade.

But the anxiety of Philadelphia does not end here. Wheeling it appears is not likely to give her all that she is in pursuit of. Her nerves are far from being tranquilized. Some of her wise men lately held a meeting to pledge her support, in addition to her other gigantic undertakings, to a connection between Wheeling and Marietta, with a view to the southern trade of Ohio. Distrusting, as we are left to infer, the terminus of their own free choice at Pittsburg, they first come to Wheeling by the Hempfield road, but when there, the next impulse that seizes them is, to rush on to the village of Marietta in a wind-mill attack upon the trade of Southern Ohio. (Cheers.) Gentlemen, this whole excitement is referable to the passage of the North Western charter. It needs no penetration to discover that Philadelphia sees the influence which the great straight line road from Baltimore to St. Louis is destined to exercise upon all her existing and future relations with the trade and travel of the west. These guardians of her interests must display more tact than I have been able to discover, if they can get rid of its paralyzing effect upon every work now or hereafter to be projected, which may be brought in conflict with it.

Gentlemen, of all the schemes which have grown out of the confusion and alarm excited by the Par-

kersburg charter, that of a connexion between Wheeling and Marietta, to secure to Philadelphia the trade of southern Ohio, is to me the most absurd and ridiculous. Suppose Marietta, which I can hardly bring myself to believe, should become the temporary terminus of the Belpre and Cincinnati road, is it not the policy of Marietta to connect with the terminus of the North-western road at Parkersburg? Will she not do it? Can she prevent such a connection? Why, gentlemen, the distance is only 11 miles, and the time consumed in the transit between the two points less than half an hour. What then becomes of the river railroad between Wheeling and Marietta? Is Philadelphia to be tantalized with the idea that her magnetic attraction is so powerful that she can draw trade and travel a distance of more than 90 miles out of the direct channel to the nearest market on the seaboard? But how long is the gap between Parkersburg and Athens, a distance of some 35 miles, to be kept open for the exclusive benefit of Philadelphia? How long will Cincinnati permit it? And when closed, what becomes of 2,000,000 of capital invested in the road between Wheeling and Marietta? Philadelphia had better concede at once what she must know to be the fact, that her only hope of deriving any benefit from the southern trade of Ohio, is through the city of Baltimore. (Cheers.)

We copy from the Baltimore Patriot the following interesting account of the ascent of the locomotives, up the maximum grade on the road (116 feet.)

The train containing the visitors consisted of five passenger cars well filled. These were drawn by engine No. 71, built by Mr. Ross Winans, to the Piedmont station at a moderate speed, to permit a view of the road; and after a short delay at that point, during which one of the passenger cars was detached, and five gondola cars, loaded with iron, were attached, the locomotive proceeded with this train, weighing about 117 tons. Over the successive grades, 39, 40, 50 and 70 feet per mile, extending for 1½ miles, the engine ran in 4 minutes, or at the rate of 20 miles per hour, and then entering upon the grade of 116 feet per mile, she ascended it in 8 minutes, to near the point at which the track terminates, a distance of 2½ miles from the beginning of the grade. The speed on the grade of 116 feet, therefore, averaged 17½ miles per hour. The steam pressure during the run was 110 lbs. per square inch, and the cut off or expansion valve was used for about two-thirds of the distance, when it was changed to the full stroke—the shifting of the valve motion causing a little loss of headway, which was, however, immediately regained. The steam was blowing off all the time, though not freely. There was no slipping of the wheels, and no necessity for sanding the track.

Immediately after the passenger train, the locomotive No. 72, built in the shops of the company at Mount Clare, came up the grade with a train of 18 gondola cars loaded with iron rails, and weighing in all 234 tons gross. Her speed upon the grade was about 7½ miles per hour, and she performed the run, working her valves at full stroke, with abundance of steam, and without stopping her wheels. The rail was dry and clean, and in the most favorable condition for adhesion.

The weight of engine 71 is 24 tons of 2240 lbs., and of engine 72 is 25½ tons. The former has cylinders of 19 inches, and the latter of 20 inches diameter—the length of stroke in each case being 22 inches. On the previous day both engines had been tried, No. 71 with 16, and No. 72 with 18 cars, or 208 and 234 tons respectively, and each drew its load up the grade without halting or slipping its wheels, and at speeds of from six to eight miles per hour.

The power of traction of the two engines, with equal pressures of steam, should be as 9 for No. 71, to 10 for No. 72—which numbers show the proportional areas of their cylinders—which have the same stroke—their wheels being also of the same diameter of 43 inches. For every 9 cars that No. 71 would draw, there should then be 10 cars drawn by No. 72. The adhesion, however, of the engines is in a different ratio, that of No. 71 being represented by the number 9—that of No. 72 will be by the number 9.66-100. Engine No. 71 has therefore the most adhesion in proportion to its tractive power, and if both are using all their adhesion, en-

gine No. 72 will do it with a slightly less pressure of steam.

The resistance upon the grade was equivalent to 62 lbs. per ton of 2240 lbs., of which 49 3-10 is due to gravity, 9 lbs. to friction and 3 7-10 lbs. to a curvature of 1000 feet radius—the shortest which occurs upon the grade of 116 feet per mile. This is the maximum resistance met with any where on this grade. Where curves of 600 feet radius occur the grade is reduced correspondingly. Engine 71 weighing 24 tons, its tender about 16 tons, and its load 208 tons—making 248 tons in all—the tractive power required was 15,160 lbs., exclusive of that necessary to overcome the resistance of the engine within itself. The weight of the engine being 53,760 lbs., the part of its weight expressing the adhesion of its wheels to the rails was therefore 1 3-55. By the same principles of calculation we make the tractive power of engine 72, 16,880 lbs., its own weight being 25½ tons, its tender say 16½ tons, and its load 234 tons—the whole equal to 276 tons. The weight of the engine being 57,680 lbs., the part expressing its adhesion would be 1 3-42.

These ratios show high degrees of adhesion, but they are such as may be expected to prevail when the rails are in their best condition; although in the daily work of the engines, they would not be required to work up so nearly to the limit of their power.

In the calculations by which the performance on these grades was estimated, a power and adhesion was assumed, but little exceeding one half of those exhibited on this occasion.

Inasmuch as by the use of sand upon the rail when it is slippery from frost or other cause, an adhesion of one fifth, or even more, can be commanded, it will be concluded that in working this grade no practical difficulty will be found at any season. With an adhesion of one sixth only, engine 71 would draw 109, and engine 72 118 tons behind the tender.

These loads would be 10 and 11, loaded double cars, of the ordinary weight of about 11 tons, and with them a speed of at least ten miles per hour could easily be maintained.

It is observed that the speed of engine 71, with the passenger train, was 17½ miles per hour on the grade. This was with a load of 117 tons, equivalent in weight to about twice that of ordinary trains of that description, which do not often exceed 60 tons.

There can be no doubt then that engines of that class, which will probably be used for passengers upon this grade, will ascend them, without assistance, with such trains.

It is deemed unnecessary to say more respecting the performance of the engines, than that they and their trains descended the grade at a speed of 10 to 15 miles per hour, under the control of the brakes, and might safely have run down considerably faster, had it been desired.

After the completion of Mr. Swann's remarks, of which we have given only a portion, Mr. Latrobe, the Chief Engineer of the company, and who by the skill and ability displayed in his department, has earned for himself a reputation as one of the first, if not the first civil engineer in this country, was complimented by the following toast:

B. H. LATROBE, Esq., Chief Engineer of the Baltimore and Ohio railroad company, whose science and energy have overcome the obstacles of nature and corrected the received opinions of men of science.

Mr. Latrobe rose to acknowledge the compliment, but it was several minutes before the enthusiastic applause would allow him to be heard. He briefly thanked the company for their feeling manifested towards himself. He could not express to the company any adequate sense of the joy he felt in the triumph, which the working of the locomotive up and over these mountains to-day had achieved for the cause of science; and for the grateful feeling which filled his heart, for the distinguished compliment paid him by the company, in associating his name with that triumph. He was, he remarked, playfully, only the engineer of the compa-

ny. He had been schooled for the bar, but, nature, he might be allowed to say, would have its way, and he retired from it to assume the more laborious, it might be; the more useful, it would perhaps be regarded, task of an engineer, which if it did not bring those who embark in it so immediately before the public, yet as the way in which this toast was received proved, was not without its rewards, even in the honors which the public sentiment and the public judgment will be sure to bestow on those who merit it. He was, he would frankly say, encouraged by this demonstration to persevere in the effort to deserve the approbation of those whose applause it was no slight honor to gain; and he would refer to what had here been said and done to-day, to stimulate the assistant engineers of the road, who shared with him, in the fullest honor of that compliment, to go on in their work of well doing, for there was a reward in the public confidence and the public approval, which the noblest ambition might worthily be stimulated to gain.

The company was also addressed by the Mayor of Baltimore, Mr. Jerome, by W. L. Clarke, Esq., President of the Winchester and Potomac railroad, and others; but our space will not allow to copy further, which we would gladly do. The event was an era in the history of the Baltimore and Ohio railroad. It was a most joyous occasion to those immediately interested in this great work: and one of no small moment to the public, and to the various lines of railroad to which this is to supply the trunk line to an Atlantic outlet.

Massachusetts.

Eastern Railroad.—At the annual meeting of the stockholders of this company, held in Boston on Monday of last week, the following gentlemen were chosen directors for the ensuing year:—D. A. Neal, Isaiah Breed, B. T. Reed, Ichabod Goodwin, Samuel Hooper, Albern Thorndike, and Samuel Philbrick. From the annual report, it appears that the receipts of the year ending June 30 have been \$502,054, against \$535,414 the previous year. The expenditures \$195,398, against \$183,672 the previous year. After paying a dividend of 8 per cent. the actual present surplus is \$22,253.

The destruction of the ferry boat by fire on the 6th of January, 1851, and the severe gales of February and April last, which did great injury to the road wherever it was exposed to their action, have rendered it necessary to draw largely on the reserved funds, which had accumulated from the earnings of the road in more fortunate years.

The construction of rival routes, and the abandonment of the former conservative policy of the state which had encouraged the building of long lines of railroads, is alluded to in the report as tending to reduce materially the value of railroad stock.

The next annual meeting is to be holden in Newburyport.

Saugus Branch Railroad.—It is stated that the stock in this road is all taken up, and that it will be built without delay. It is to extend from the Boston and Maine railroad in Malden, down through Saugus to Lynn. Perhaps it may eventually be extended over the old surveyed route of the Danvers and Malden road to South Danvers; and thence by means of the Essex connecting with the Danvers and Georgetown road, to Georgetown, and thence by the Newburyport railroad, to Newburyport, in which case it would constitute a competing route with the Eastern road, between Newburyport and Boston. The suggestion has been thrown out that the Saugus branch route could be made a favorable

mode for the permanent entrance of the Eastern railroad into Boston; but we are not aware that any arrangements are making to effect that object. In fact, we presume the majority of the stockholders in the Eastern road prefer the present terminus, at East Boston, which is assuming quite a degree of importance, for its ship-building and mechanical, to say nothing of commercial interests. It is urged that instead of changing its terminus at an expense of a million of dollars to avoid the ferry, the true policy of the Eastern road is to put its present route in the best possible condition, so as to be able to compete successfully with the other routes to the eastward.

Essex Railroad.—The stockholders of this company held a meeting at Salem on Monday of last week, at which the following gentlemen were chosen directors for the ensuing year:—George Hodges, David Pingree, Nathaniel Weston, Nathaniel B. Mansfield, Ebenezer Sutton, Samuel A. Safford, John B. Silsbee.

Missouri.

Ste. Genevieve, Iron Mountain, and Pilot Knob Plank Road.—The surveys and location of this work have been completed, and it is now in the hands of contractors. The two sections adjacent to Ste. Genevieve, measuring over seven miles, and the section at the Iron Mountain, measuring six miles, are to be completed by the 1st January, 1852. The other sections, including the branch to the Pilot Knob, a distance of eight and a half miles, are to be completed by the 1st of September, 1852.

A survey is soon to be made to Mine la Motte and Fredericton, to connect these points, by plank road, with Ste. Genevieve.

The completion of this road is of great importance to the iron establishments in that part of Missouri; the cost of transportation hitherto being the great drawback to their success.

Indiana.

Peru and Indianapolis Railroad.—We learn that a contract has been made for the completion of this road in season for the business of the fall of 1852. The contractors are men of well known capacity and experience in railroad construction, and we have no doubt that the road will be opened within the time specified. The whole distance from Indianapolis to Peru is seventy-two miles. The first division of the road from Indianapolis to Noblesville is completed, 22½ miles, and in operation. The portion opened is doing a very profitable business, and upon its ultimate extension to Peru, it is believed it will be one of the most profitable lines in the state. It strikes the Wabash Canal at the most convenient point for the trade of Central Indiana. This canal must always take the heavy freight; and as soon as the railroad now in progress in that state, and terminating upon its banks, shall be completed, it must be the channel through which a large part of the state will procure her supplies of foreign merchandize, and forward her products to a market. From Peru to Toledo on Lake Erie, the distance is 160 miles, making the whole distance from the latter place to Indianapolis 232 miles. The road forms the appropriate extension of the canal to the latter place. It will turn a great part of its trade, and that of the country adjacent, in direction of the lakes.

From this view of the case, it is doubtful whether any road in the state has more flattering prospects of a profitable business. The country traversed, though much of it recently settled, is exceedingly fertile, and already produces a large surplus for ex-

portation. Its local trade must be very great, and if it is to be the avenue for the trade of Indianapolis, its through business must be still more profitable. We think its directors have been very fortunate in effecting arrangements, through its President, Mr. Burke, for its speedy completion.

Tennessee.

Winchester and Alabama Railroad.—It is expected that this road will be pushed forward with vigor. It is designed to extend from the Chattanooga railroad near Winchester, through that town, to the Alabama line, to be met, at any point, by connecting railroads from Huntsville and the terminus of the Selma railroad. In this way, the Chattanooga railroad will have the benefit of the entire Alabama trade. The road is a most important one, connecting as it does, Middle Tennessee, with the immense trade destined soon to follow the course of the Selma railroad, and the Memphis and Huntsville railroad. The Salem road is expected to unite the navigable waters of the Alabama river with those of the Tennessee at Gunter's landing. The Memphis road will run from the Mississippi to Huntsville, passing, of course, through and near the southern counties of Tennessee and the northern counties of the states of Mississippi and Alabama. The trade thus secured must be of great value.

The company have elected Hugh Francis, Esq., of Winchester, President, and have appointed Mr. E. D. Sanford Chief Engineer. The Nashville Union states that sufficient subscription has already been obtained to render the building of the road at no very distant day absolutely certain.

Importation of Iron.

The following is a statement of the amount of English Iron imported into the Port of New York for the six months ending July, 1851:

	Tons.
Sheet and Plate.....	5,159
Bar.....	26,700
Hoops and Rods.....	5,094
Railroad Iron.....	40,008
Pig Iron.....	25,346
Swede and Russia.....	5,098
Total tons.....	107,406

Williamsport and Elmira Railroad.

The definite location of the extension of this railroad, from Ralston northward, is now being made to a point at the summit of Towanda Creek, whence the route to the intersection of the Erie railroad is as yet undetermined. Although it was originally contemplated, and has until recently been expected that Elmira would be the northern terminus of the road, yet we understand an influence is being exerted, which will probably be successful, to secure a junction with the Erie railroad, at Waverly. This line follows down the valley of Towanda Creek to the Susquehanna river, thence up the river bank to Athens, where the Chemung river is crossed, and at a point three miles distant, the Erie railroad is reached near Waverly. It is represented that the cost of constructing the road to Waverly would be \$350,000 less than the cost to Elmira, and that there would be no grade exceeding 30 feet per mile, whereas on the route to Elmira it has been ascertained that two summits must be crossed, which require 50 feet grades in the ascent. On the other side, it is stated that the distance to Waverly from Williamsport is seven miles farther than to Elmira.

Considering the extensive business to be transacted by this railroad, which must be obvious, on examination of its Northern and Southern connex-

ions, we trust that route will be adopted most conducive to the permanent interests of the company, and that these may not be sacrificed for any inconsiderable temporary advantages.

Invention.

James Milholland, Esq., master machinist of the Reading railroad, has invented what he calls a "Mountain Shoe," designed to moderate the speed of cars in descending a heavy grade, when the rails are slippery from rain or other cause. In a late trial of the shoe, it brought down a grade of 300 feet to the mile fifty coal cars, at an average speed of five miles per hour. The efficacy of the shoe consists simply in its form—being provided with an additional curve from the one in which the wheel rests, and this being tormented at an angle, which gives the most powerful resistance to the downward pressure. They are also instantly removed from the wheels by a backward motion of the train; the fore wheels of the car acting upon a curve in front of the shoe, removes them from the rail to the side of the track.

Baltimore and Philadelphia.

Our readers will find the Baltimore side of the controversy, now going between the above cities, in reference to Western connections, well stated in a communication in another part of our paper, signed "Baltimore." It presents the Baltimore view of this matter, and invites the scrutiny of the friends of the other route.

Atlantic and St. Lawrence Railroad.

This road was opened for travel on the 23d ult., to the White Mountains, 91 miles from Portland. The event was celebrated with a good deal of enthusiasm. An excursion train carrying the directors of the company and a large number of invited guests, left Portland on the morning of the 23d, dined at Mount Washington house, at which the speeches and toasts proper to such an occasion were given. At 5 o'clock, P. M. the party returned to Portland in about three hours running time.

The occasion of the opening of the White Mountain section, attracted a large number of persons from the neighboring states, who for the first time seemed fully impressed with the greatness of this enterprise, and with a conviction that its early completion is a matter of certainty. It is now regarded as one of the leading works of the kind in the United States, and destined to be a formidable competitor for Western trade. It will probably reach the St. Lawrence in season for the winter business of 1851-'2.

New York.

The Directors of the Syracuse and Binghamton railroad company met on the 24th at Syracuse, for the purpose of electing officers, and of making preparations to commence the work. Henry Stevens, Esq., of Cortland was elected President, and Col. H. Lewis of Broome, was elected Vice-President; Horace White, Treasurer, and A. H. Hovey, Secretary.

Massachusetts.

Taunton Branch Railroad.—At a meeting of stockholders the following were chosen directors for the ensuing year:—William A. Crocker, Thomas B. Wales, Samuel Frothingham, John F. Loring and Fitzhenry Homer. At a subsequent meeting of directors, W. A. Crocker was re-chosen president, Edw. Pickering treasurer, and A. E. Swasey superintendent.

New Orleans and Jackson Railroad

The line of this road is now being surveyed.

Tehuantepec Railroad.

Advices from Washington state that the Administration will not interfere in the dispute between the Tehuantepec railroad company and the Mexican Government. The latter is firm in its determination to make no exclusive arrangements with any company, but has announced its willingness to enter into a treaty upon the principle of our treaty with New Grenada, and the Clayton and Bulwer treaty with regard to Nicaragua.

American Railroad Journal.

Saturday, August 2, 1851.

Stock and Money Market.

The Stock and Money Market has undergone a severe change since our last. Some of our stocks have within a few days declined ten per cent. The heaviest blow has fallen upon the Erie, which from 84 a few days since, has touched as low as 74½. Other stock have all been affected, but not to an equal extent. Money is in demand and difficult to be had, except at high rates. Short loans are being called in by the banks and brokers. The former discount sparingly, and there seems all round to be a general disposition to suspend operations for the present, till we see what effect the excessive shipments of specie will have. It is the fear of disastrous results from this cause, that has produced the present state of things.

There is probably no sufficient cause for the excessive alarm which now exists, but the check given will exert a salutary influence. It will tend to check importations. It will knock up speculative movements. It will give our people an opportunity to turn round to see where they are. It will beget a greater caution on the part of our business men, and will exert a strong influence to ward off the evils that are feared. The condition of the future depends entirely upon the extent of our shipments of specie, compared with our receipts. We have a vast surplus of products of every branch of industry; and but for the extent of our foreign indebtedness, we should be in the enjoyment of unparalleled prosperity.

Quotations of new securities are merely nominal. There is but little movement of any kind. The foreign rail market continues dull, without any immediate prospect of a rise.

Lachine and St. Lawrence Canal.—The following is the amount of tonnage on this canal from the opening of navigation, April 23d, to June 30th inclusive:—

	1850.	1851.	Increase.
Upward Freight.....	16,494	26,910	64 per cent.
Downward ".....	31,509	44,858	41 "

The number of vessels passing over the canal was 1439 in 1850, to 1901 in 1851; an increase of 32 per cent.

The amount of tolls was:—

	1850.	1851.	Increase.
On upward freight.....	\$2,679	\$3,338	24 per cent.
On downward ".....	3,539	4,449	23 "

These results show a flourishing state of business.

The business on the Morris Canal is increasing. The receipts during the first two weeks of July, were \$7,912 70, an increase of \$955 74 over last year. The company have completed all their ascending planes.

There is a lull in the Philadelphia real estate market and a decline of prices is considered probable. Speculations in lots have been large within the past year.

The following table will show the export of specie from this port for the week ending July 19, and for the year:—

Steamer Hermann, Bremen, five francs.	1,693
" " " German gold	19,829
" " " American	
gold.....	308,150
Brig Ambassador, Malaga, five francs....	24,150
Schooner Nassau, " " " "	10,000
Steamer Africa, Liverpool, American	
gold.....	1,000,542
Ship Havre, Havre, American gold....	105,000
Brig Augustina, Bolivar, Mexican dollars	9,000
Brig Hetty, Port au Prince, American	
gold.....	2,000
Steamer Baltic, Liverpool, American	
gold.....	644,000
Steamer Baltic, Liverpool, sovereigns...	65,000

Total, July 12 to July 19.....\$2,189,364
Previously reported.....19,753,687

Total for 1851,.....\$21,943,051

The market at the second board was unchanged from the morning. There is literally no business doing, and each day's account is almost a repetition of the day before.

Custom Receipts.—The following is a statement of revenues received at the principal ports for the year ending 30th June, 1851:—

New York....\$31,756,199	St. Louis....\$213,832
Boston.....6,577,540	Cincinnati... 105,191
Philadelphia... 3,667,838	New Haven... 102,159
Baltimore.... 1,047,278	Mobile..... 76,184
New Orleans. 2,296,636	Louisville.... 66,572
Charleston... 600,712	Oswego..... 91,557
Portland..... 209,030	Richmond.... 70,235
Savannah.... 208,994	

The new fiscal year promises even a larger revenue than the last. Thus New York begins the first week of the month with about a million, Philadelphia with \$200,000, Boston with \$187,000, &c.

Morris Canal.—The receipts of the Morris Canal company for the week ending July 19th, 1851, were \$4,412 91, against \$3,004 96 in the corresponding week of last year. Increase, \$1,407 95.

Erie Canal.—The amount received for tolls on all the New York State Canals during the 3d week in July, is.....\$101,394 61
Same period in 1850.....75,718 52

Increase in 1851.....\$25,076 09

The aggregate amount received for tolls from the commencement of navigation to the 22d of July inclusive, is.....\$1,399,631 45
Same period in 1850.....1,135,132 10

Increase in 1851.....\$264,229 35

The Evening Journal gives the annexed statement of the quantity of flour, wheat, corn and barley, left at tide water during the 3d week in July, in the years 1850 and 1851, as follows:

	Flour.	Wheat.	Corn.	Barley.
	bbls.	bush.	bush.	bush.
1850....	24,598	80,872	49,128	2,290
1851....	92,716	120,315	340,207	2,854

Increase. 2,844 71,187 164,048 564

The aggregate quantity of the same articles left at tide water from the commencement of navigation to the 22d July, inclusive, during the years 1850 and 1851, is as follows:

	Flour.	Wheat.	Corn.	Barley.
	bbls.	bush.	bush.	bush.
1850....	785,418	307,435	1,733,537	129,091
1851....	1,370,609	789,692	3,834,071	107,485

Inc.... 585,101 482,257 2,100,534 dec.21,606

By reducing the wheat to flour, the quantity of the latter left at tide water this year, compared with the corresponding period of last year, shows an increase of 681,642 bbls. of flour.

The country east of the Ohio river between the mouth of Three Forks and Parkersburgh is, at least as favorable for directness of line as that between Greensburgh and Wheeling; and whatever rate of increase on the air line is allowed in the one should be in the other. The above estimate of 83 miles between those points corresponds also with that of Mr. Knight's reconnoissance. The same may be said of the country west of the Ohio, between Parkersburgh and Athens, compared with that between Marietta and Athens. But if the estimated increase of distances upon the air lines be too much, or too little, it will change the results of the comparison but slightly, and I am confident not unfavorably to the Parkersburgh line.

How different is this result from that of the party who makes out the Hempfield and Marietta route to be 44 miles shorter than the Baltimore and Parkersburgh—stretching the distance from Athens to the Tygart's Valley river, 25 miles, and thence to Baltimore 3 miles, making 28 miles—while on the other route he shortens the distance from Athens to Greensburgh 16 miles, making the 44 miles of error thus exhibited. The grades, however, of the two lines are, he asserts, to increase this erroneously assumed difference of 44 measured miles, to the full extent of the difference (54 miles) between it and the whole distance of 98 miles between Baltimore and Philadelphia, so as to make Philadelphia virtually as near to Athens as is Baltimore. In other words, Philadelphia is nearer to Athens via Marietta and Hempfield, than she is via Parkersburgh and Baltimore, by 44 miles of measured distance, and Philadelphia by the Hempfield road is as near to Athens as Baltimore in equated distance. That is, the grades of the Hempfield route to Philadelphia are better than those of the Parkersburgh route to Baltimore, by 54 measured miles.

And how is this proved? Not by any detailed comparison of ascents and descents upon the entire line, on both routes, or by any professional demonstration of the effect of their grades upon the expense of motive power, &c., but, as it may be supposed, by allusion to the higher grades which prevail on the Baltimore and Ohio railroad in crossing the Allegheny mountains. But these grades occupy but about 33 miles, or 6 per cent. of the whole distance of 529 miles, and the steepest of them (116 feet) does not after all compare so badly with the steepest of the Pennsylvania road, crossing the same mountain, which has at length crept up from 45 to 95 feet per mile. The evidence is yet to be produced that the grades of the Pennsylvania route as an entire system are in any degree superior to those of the Baltimore route. It is too customary to characterize the grades of a line by the steepest grade upon it, without reference to its position or length, or the inclinations and distribution of the lesser grades. This is manifestly wrong, and has grown out of the ungenerous and unthoughtful yea and really impolitic practice too prevalent even among professional men, of lauding their own at the expense of rival lines, as if there were no other way to stimulate communities and encourage stockholders than by showing that the particular line recommended is better than all others.

It so happens that nature has made provision for the greater power required to cross the Allegheny summit, in the vast beds of mineral coal which abound along the slope of that range. No road passing it is so well situated in this respect as the Baltimore and Ohio railroad, which has the coal of the Cumberland basin right at the foot of its longest and steepest grade—a coal now admitted to be far

the best for locomotive engines in America. Before any more clamor against the grades of the Baltimore and Ohio railroad is listened to, let us have a detailed and fair comparison between them and those of the Pennsylvania route, made by some engineer competent to the task, and furnished with the facts.

We see, then, that Philadelphia is nearer Athens, (and consequently nearer Cincinnati) via Parkersburgh and Baltimore, than via Marietta and Hempfield, by 11 miles, and, I assert, with as good a system of grades.

But Philadelphia has also another route to Cincinnati, from Wheeling through Zanesville and Columbus, which will be shorter than the one via Marietta, and which will be soon made without calling upon her for capital. The Central Ohio railroad, already under construction between Zanesville and Columbus, a distance of 58½ miles, will soon be located between Wheeling and Zanesville upon a line probably not longer than 85 miles. The line finished and in use from Columbus to Cincinnati is 119½ miles, and the total distance from Wheeling to Cincinnati will be thus 263 miles.

By the route via Marietta the distance from Wheeling to Athens is above shown to be 122 miles. To this add 59 miles from Athens to Chillicothe (estimated by the air line 47, with ¼ for increase), and 98 from Chillicothe to Cincinnati, (surveyed)—total 279 miles.

The Zanesville and Columbus line from Wheeling to Cincinnati will thus be 16 miles shorter than the Marietta and Chillicothe line. But there is still another line, the Zanesville, Lancaster, Circleville and Wilmington line, upon which the distances are estimated (by the air lines with suitable allowance for increase according to the character of its several sections) to sum up a total of 256 miles.

The Zanesville and Circleville line from Wheeling to Cincinnati will thus be 23 miles shorter than the Marietta and Chillicothe line.

Finally, comparing the distances between Cincinnati and Philadelphia, upon the four several routes above indicated, we have the following:—

Philadelphia to Cincinnati—	Miles.	Difference.
Via Hempfield and Marietta...	687	
" Baltimore and Parkersburgh...	676	11
" Hempfield and Columbus...	671	16
" " and Circleville...	664	23

The Marietta route being thus 11 miles longer than the longest, and 23 miles longer than the shortest of the three lines with which it must compete,—what inducement then is there for Philadelphia to furnish capital to make it? Better help the substantial Central Ohio than the chimerical Marietta scheme. As a through line it is evident the latter must be worthless to Philadelphia, and equally so as a means of securing the trade of Southern Ohio, which belongs properly to Baltimore, nearer to it than Philadelphia by 98 miles upon the shortest route that Philadelphia ever can get, which is the line through Baltimore.

From the above schedule of distances, the accuracy of which I am confident, the lines as they will be constructed will confirm [the frequent speculations of interested parties notwithstanding], it will be seen that Philadelphia will be nearer to Cincinnati by the Hempfield and Columbus line than by the Baltimore line only five miles, and by the Hempfield and Circleville line, only twelve miles. It may well be doubted whether this last line will

be shortly made, [although chartered and also subscribed for in part], to save a distance of but seven miles in one of some 260 miles; and to effect which the construction of about 135 miles of new road would be necessary. But suppose this line [the shortest possible from Philadelphia to Cincinnati] be constructed, and the worst disadvantage that the Baltimore route will have to contend with is twelve miles of distance upon a line of nearly seven hundred miles. Whether the "local attractions" of Baltimore and Washington will not be an over match for this trifling difference of distance, events will show. No rational man has an idea that either route will do the whole business of the west, which will be shared by these and several other lines.—All that Baltimore asks is to be allowed her own proper distance; for if the various adverse interests are to be believed, she is to be entirely deprived of all participation in the trade and travel of the great west by the all-absorbing power and attraction of her northern rivals.

A word in conclusion upon the subject of the capital required for the respective lines above described from Athens eastward:

The line from Athens to Tygarts Valley river is made to measure 177 miles, and to cost at \$30,000 per mile.....	\$5,310,000
While the Marietta and Hempfield line is made to measure 189 miles, and to cost at \$25,000 per mile.....	4,725,000

Making a difference in favor of Marietta and Hempfield of some.....

\$586,000

But this is all mere speculation and entirely unfounded upon the true state of the facts and probabilities. The average cost per mile of the two lines may not perhaps materially differ, as the probable advantage of the Marietta route in running along the river for 80 miles will be fully counteracted by the heavy expense of the Hempfield line of 83 miles, and of the Athens and Marietta line of 42 miles over a very broken country. The Athens and Parkersburgh line of 36 miles would occupy for some 30 miles the valleys of the Hocking and Ohio rivers, and the Parkersburgh and Three Forks line would for the greater part of its length be upon easy valley ground. But we will assume the lines to average the same cost per mile, and take the lowest rate, then the amount will stand thus:—

Athens via Parkersburgh to Tygarts valley river, 151 miles at \$25,000....	\$3,775,000
Athens via Marietta and Wheeling to Greensburgh, 204 at \$25,000.....	5,125,000

Difference in favor of Parkersburgh line.....

\$1,350,000

Instead of \$585,000 against it—so that to the error of 44 miles of distance must be added one of \$1,935,000 of capital, made by the Philadelphia authority.

The preceding case present a fair view of the probable facts of the case. They are open to discussion. Let them be disproved if they can be, by dispassionate argument and substantial facts—not by unsupported assertions and abusive clamour.

I agree with you Messrs. Editors in the assumption you express in the close of your paragraph, that "the people of southern Ohio are likely to have a choice of markets between Baltimore and Philadelphia," and I add that Baltimore will always be their first choice, as they must reach Philadelphia through her, and not by the Marietta and Hempfield, or any other possible or conceivable route.

The people of Chillicothe will do well to consider

the facts above presented, before they entangle themselves inextricably with a scheme of route that must prove a failure. Let them spend all their means and energies to reach *Parkersburg*, and they may prevent the construction of a line [for which there is an independent charter], from Cincinnati to that place, which will leave her many miles to the north and probably give the shortest and best line across Southern Ohio. For the construction of this line capital will be forthcoming in due time, if the interests involved should demand it.

BALTIMORE.

July 28th, 1851.

"Air Line" Route to Boston.

The New York and Boston railroad company, as we learn from a pamphlet recently issued by them, which gives full information with regard to their prospects, have procured all the charters necessary to make an unbroken line of railroad over the direct route from New Haven to Boston, terminating at the foot of Summer street, and have put the entire control of the line under one board of directors.

The *Boston Journal* contains an abstract of the pamphlet above mentioned, which we subjoin:—

The proposed route is as follows:—Commencing in Boston at the foot of Summer street, the road follows a direct line to South Dedham under the Midland charter, crossing the Old Colony and Providence railroads in its course. At South Dedham it intersects the Norfolk county railroad, which is held by the New York and Boston railroad company, by virtue of a lease duly executed. Continuing westward on the Norfolk county road, it reaches Blackstone. From Blackstone it proceeds westward to the east line of the state of Connecticut, under authority of the charter of the Southbridge and Blackstone railroad, which charter is now merged in the New York and Boston railroad charter, by joint stock. It then continues westerly under the last named charter four miles, to an intersection of the Norwich and Worcester railroad.

From the point of intersection crossing the Norwich and Worcester, the proposed road runs in a south-westerly direction about twenty-eight miles, to Willimantic. At this point it intersects and crosses the New London and Palmer railroad. From Willimantic it continues in a south-westerly direction to Middletown, and thence direct to New Haven, where it will connect with the New York and New Haven road, making a continuous line of railroad from New York to Boston on the most direct and feasible route.

At Blackstone a junction is made with the Providence and Worcester road, making an easy communication with the towns upon the line of that road. At Thompson the road will intersect with the Norwich and Worcester railroad, where a great connection will be made, similar to those at Groton and Worcester. From this point railroads will diverge to New Haven, Norwich, Boston, Millbury, Worcester, and Southbridge. From this place a road is soon to be extended through Southbridge and Brimfield, to an intersection with the Western railroad at Palmer, sixteen miles from Southbridge, and eighty-two miles from Boston, by the Western and Boston and Worcester railroads, and about 80 miles from Boston by way of Blackstone. At Willimantic it intersects the New London and Palmer road, to which it will give a most important outlet to Worcester and Boston, and all the eastern portion of New England, and for its middle section to New York, and will add, it is believed, greatly to the value and usefulness of that road.

At Willimantic it also touches the eastern terminus of the Hartford, Providence and Fishkill road, as at present constructed, giving to that a direct communication with Boston and other parts of New England. When the road from Willimantic to Providence is constructed, it will add another valuable feeder to the proposed road, and save to the New York and Southern traffic sixteen miles, over the route by Hartford. At New Haven it will meet the contemplated road to Danbury and Fishkill, on

the Hudson River, for which a charter has been obtained. By this route the distance from Boston to the eastern terminus of the great Erie railroad, is more than twenty miles shorter than the route proposed by the Providence and Hartford company, with grades and curves much easier, and it is believed this route will be taken for the great middle railroad, and thereby combine the Southern and Western travel from Boston to New Haven, where it will divide. By this arrangement, the Western travel, designed for the Erie railroad will pass over the entire length of the New York and Boston railroad.

The distance from Boston to New Haven by the proposed road, computed from reliable surveys, is about 133 miles, about 100 of which are yet to be constructed. It is proposed to build the road in the most substantial manner, the grading to be wider than usual and thoroughly drained in all its cuts. The superstructure will consist of good clean gravel, of sufficient depth to prevent frost from penetrating through, to leave the road bed and displace the rails. Ties of extra length and size will be required, with a rail of the most approved pattern, and heavier than any known to be used in New England. No grade will have a greater inclination than 40 feet per mile, except, perhaps, a short distance near Middletown, and there will be no curve of less radius than 2,500 feet. The road is to be constructed in every respect to insure the greatest speed and safety.

The cost of the road, as estimated by the several engineers on the different sections of the routes surveyed, is as follows:—

Blackstone to New Haven	\$2,500,000
Midland road from South Dedham to Boston	474,000

Total

.....\$2,974,000
The Norfolk county road is to be held by lease, at an annual rent of \$10,000 over and above one half of the gross receipts of that road from its local earnings.

Books for subscription to stock will soon be opened, and as soon as one million of dollars are subscribed, that part of the road between Blackstone and New Haven will be put under contract, and the work commenced at once. The enterprise is in the hands of intelligent energetic men, who are confident of entire success.

New Model for Vessels.

A model of a novel character has been invented recently by Mr. Darius Davison, of this city, the main feature of which is the extension of so much of the bow and stern of a vessel as is liable to be submerged, without any corresponding extension in the upper frame. The addition at either end is in the proportion of one third to the length of the main body of the craft; and this change of form is accompanied by a slight change in the body of the vessel. The advantages thus proposed to be gained are several; the lightening the draught of a vessel by displacing its weight of water at the lowest possible point, the lessening the resistance of the water at the bow through which it cleaves, together with lateral friction by the means of more gently running lines, consequent on great length, and the obtaining of fuller support to the stern, now left unsupported when a vessel is mounting a wave, which occasions a proportionate depression at the bow, and increased resistance and delay. According to Mr. D.'s calculations, the difference between the draught of a vessel of a given tonnage built on this plan, and another of a similar tonnage after the most improved model now in use, would be at least one-fifth. As to accommodation he secures great breadth of beam in proportion to the length of the vessel.

In addition to this, Mr. Davison has made what he considers an improvement in the generating of steam, and in the propelling apparatus, which latter will in due time be made public. It is stated that Mr. D. is making arrangements to build a boat on

this plan, to run on the Hudson River early next season, and he confidently asserts that his vessel can run the distance between New York and Albany in five hours, being at the rate of 30 miles per hour; and that a vessel constructed, modeled, and propelled on this plan for the ocean, can be run at the rate of 400 miles a day, or from New York to Liverpool in 7½ days, all of which he claims he is prepared to demonstrate both theoretically and practically, as *absolutely certain*.

His plans will soon be laid before the public in a general way, when an opportunity will be afforded to all to judge of their practicability and importance.

The Bridge at Rouse's Point.

The distance across the Lake at this place is about five thousand feet, and the two wings of the bridge from the New York and Vermont sides are now nearly completed. A space of two hundred and fifty feet in the channel is to be left, in accordance with a recent act of the New York Legislature, for the accommodation of navigation. To take the cars across this space, an enormous boat has been built, whose length is about three hundred feet, and it is wide enough to lay two tracks upon its deck. This boat is to be moved by a stationary steam engine, which will place her in any position desired, by means of chain cables which pass around a drum on the boat, and sink to the bottom of the lake so as not to interfere with navigation. The ebb and flow of the tide would seem to interpose an obstacle to this communication, for the bridges are not made to rise and fall to accommodate the tide, as are the platforms on our ferry-slips. But to overcome this difficulty, rails are to be constructed with joints and hinges, that they may be raised or lowered as occasion may demand. While most of the cars are on the level bridges, a slight elevation or depression of the rails, to accommodate the tide, will have but a small effect in retarding or hastening the train. The space occupied by these elevated or depressed rails will be short, and when the cars have passed over this place, they will again find a level on the boat, so that but a few cars will be going down or rising up while the rest of the train is upon a level either on the bridge or on the boat. When the train has passed over, this long boat can be removed by the engine and cables into some slips prepared for that purpose, and the navigation of the lake will be left free.

Periodical Rise and Fall of Lake Superior.

There is a periodical rise and fall in the waters of this lake, well known to masters of vessels and others who live at ports on its shores, and to account for which, many theories have been advanced. The water commences rising above or below the Ste. Marie Falls, in June every year, and continues to rise very gradually till the last of August. It then slowly falls till the following May, at which time it is at its lowest ebb. The highest regular flow is not more than three or four feet. The most plausible explanation that we have seen is the following:—During the winter season there is no rain in the region of the lake, it being situated in a high northern latitude; and hence, while its supplies are nearly all cut off, the rapids of the Ste. Marie are constantly lessening its volume. The rains commence and snow begins to melt about the 1st of April, and the immense basin of Lake Superior becomes gradually filled, faster than its outlet suffers the water to escape. Thus the great extent of the lake both prevents a sudden rise, and serves to prolong it after the immediate cause has been removed.

Mining Intelligence Association of Lake Superior.

A meeting was held at Eagle Harbor on the 11th ult., of persons interested in copper mining, who formed an association under the above title, the object of which is to circulate reliable information concerning the mineral resources of our country, to represent truly the various stocks which are held in the market, and to prevent as far as possible, the introduction of fancy or worthless stocks. Samuel W. Hill, Esq., of Eagle Harbor, was chosen President of the association, and Marquis W. Kelsey, of Eagle River, Secretary. S. W. Hill, M. W. Kelsey and Wm. H. Stevens were chosen Directors.

Blake's Patent Fireproof Paint.

This paint in a few months after applied, turns to slate or stone, forming a complete enamel, or Coat of Mail, over whatever applied, protecting it from the action of fire, water or weather. It has gained such universal credit throughout the country that many have been getting up and endeavoring to push into market (entirely upon the popularity of the genuine,) all kinds of counterfeits, and in many instances have succeeded in making persons believe it like Blake's, as the powder nearly resembles his, but upon trial must prove itself entirely worthless. An examination of its true analysis will show at a glance that it cannot be otherwise, containing nearly three-fourths sand, or silica, and only a small proportion of Alumina, (which is very necessary to give the requisite toughness to the paint,) and but very little oxide of iron, the cohesive attraction of which binds the different component parts after the action of the atmosphere has destroyed the oil.

Analysis of the so-called
Fireproof Paint at Lan-
singburgh, N. Y., by Dr.
Salisbury.

Sand, or Silica, . . . 72.84
Alumina, 5.02
Per Oxide of Iron, . 6.40
Oxide of Mangan-
ese 14.40

Analysis of Blake's by Dr. Chilton.

Sand, or Silica, 48.15
Alumina, 21.00
Oxide of Iron 18.30

The above comparison shows that the spurious is nothing more than common sand stone ground up, and the proportion of the alumina and oxide of iron being so small, it can have no effect in binding and holding the coating on after the action of the atmosphere has destroyed the oil, and of course will turn back to dry sand, and rub or wash off; whereas, Blake's has sufficient silica to give it the necessary hardness, and a large portion of alumina and oxide of iron, which harmonize and combine in their natural state, forming a hard tough covering, which has now been tested more than seven years, and where first applied is like a stone; whereas, the counterfeits have not yet been tested much over a year.

LOOK OUT FOR FORGERY!

For since the public have become aware of the value of the genuine and worthlessness of the counterfeits, those having the spurious have found it impossible to sell; some of them, therefore, have commenced forging Mr. Blake's brand and putting it upon the barrels, and sell it as his paint. We understand that Mr. Blake has just returned from Philadelphia, where he found about a hundred barrels of this counterfeit stuff in the hands of different individuals, with his brand upon it, and he immediately commenced suits against them, being determined to prosecute not only one who counterfeits his brand, but all who infringe his patent, as he now has three suits in the U. S. Court against persons for selling Fire Proof Paint, in violation of his rights. They public may detect these counterfeits from the fact that in the genuine the words "BLAKE'S PATENT FIRE PROOF" are put on the barrels in a circular form, and the word "PAINT" straight; but in the forged brand "BLAKE'S PATENT" is put on straight, and "FIREPROOF METAL-

LIC PAINT" in a circular form. We, therefore, would caution those who wish to get the genuine article to be very particular in examining the brand or go directly to Mr. Blake's, at 84 Pearl Street, where they not only can depend upon getting the genuine, but have no fear of infringing any one's rights.

Relative Power of Large and Small Locomotives.

An interesting experiment was tried at Crewe, England, on the 20th of May last, for the purpose of testing the power of the small sized engines used on the northern division of the London and North-western railway, and the large engines used on the southern division of the same line. The point to be decided was, whether one of the large goods engines was better able to work a heavy-goods train than two of the smaller sized engines, the power of the two smaller sized ones being about equal to that of the larger one. The load to be taken up was divided between the two smaller sized engines. One of them took up her load in forty-nine minutes; the other one took up hers in thirty-two minutes; the two together were then put to the same load, which they took up in thirty-five minutes. The larger engine was then attached to the same load, and occupied an hour and fifteen minutes in taking it up. Now, if the two smaller engines were only thirty-five minutes in taking it up, one of them would have taken it up in seventy minutes or in five minutes less time than the large one; proving, as it were, either that the small engine has more power than the large one, which is impossible, or that the full power of large engines has not yet been brought to bear upon railways.

The loss of power in proportion to the size of the engine, is probably owing to the small hold which the wheels have upon the surface of the rails. The two smaller engines having more wheels, have more surface of rail to bite upon, and consequently more effective power than the larger engine. The obvious remedy for this, in order to bring into action the full power of the large engines, would be to increase the top surface of the rails, and to have them as flat as possible, except the inside edge, which might be rounded off a little to afford play for the flange on the tire of the wheel.

Railways: Their Introduction into Great Britain.

Public railways are exactly coeval with the nineteenth century, for the legislative act authorizing the construction of the Surrey line in 1801, was the first act of parliament of this nature; all earlier railways having been purely private works, chiefly associated with mines or collieries. Cast iron plate rails, fastened on rough blocks of stone, were adopted on the Surrey tramroad, which unites Croydon and Wandsworth, and is nine miles long, including the branch to Carshalton, being of nearly the same length as the first Scottish railway, the Kilmarnock and Troon line in Ayrshire, the act for which was passed in 1803. An outlay of £60,000 was required for the execution of the Surrey line, and the sole motive power employed was horses. Three years afterwards a new locomotive agent of as much, but of very different mettle made its modest debut on the railway at Merthyr Tydvil in South Wales. Fresh from the manufactory of Messrs. Richard Trevithick, and Andrew Vivian of Camborne, in Cornwall, the "car without horses, the car without wings," displayed its first performances "with a rush and a roar" undoubtedly, if not with the speed of a dream; but drawing on this first experiment ten tons of iron, and the carriages containing them a distance of nine miles, at the rate of five miles an hour, without requiring a second supply of water. Not content with a private stage, the locomotive ventured into public on the Stockton and Darlington line, between Stockton and Wilton Park Colliery, opened on the

26th of September, 1825; which was the first public railway on which steampower was employed; and where it was associated with horse-power, and applied both by locomotive and stationary engines. This union of agents proved far from harmonious, especially as there was only a single pair of rails, with passing stations; and great delays necessarily occurred. The attention of the scientific and commercial world was now, however, fully awakened to the importance of this new form of power, which had been so successfully applied to navigation. Not only were the Darlington engines of inferior construction, but the field selected for the development of their capabilities was particularly unfortunate, from the steep gradients abounding on that line. Yet the day of triumph was not far distant. Already the "Grand experimental railroad" was more than schemed; for in the year preceding the opening for traffic of the Darlington and Stockton line, the first prospectus had appeared of a company established for the formation of a double railway between Liverpool and Manchester. They obtained their act of parliament in 1826, despite the determined opposition of the canal proprietors, who had procured the rejection of the Company's petition for leave to bring in a bill the year before. This scheme originated with Mr. William James of London, in 1822, the projector also of the London and Birmingham railway, who influenced Mr. Saunders of Liverpool, commonly regarded as the father of the undertaking, so much in favor of the project, that that gentleman caused a survey of the line to be made at his own expense. A work published in 1820, called "A General Iron Railway," claims however for the author, Mr. Thomas Gray of Leeds, the honor of having founded the existing railway system. Mr. Wilson of Brussels wrote a pamphlet in 1845, explaining the merits of Mr. Gray, who when he presented a copy of his book to Mr. Wilson, said to him in prophetic tones:—"Here is the main spring of the civilization of the world: all distances shall disappear; people will come here from all parts of the Continent, without danger and without fatigue; companies will be formed, immense capital paid and invested; the system shall extend over all countries; emperors, kings and governors will be its defenders; and this discovery will be put on a par with that of printing." The insufficiency of the existing means of transport was most strongly felt at Liverpool, "the greatest thoroughfare in the world," and it is not the least honor of her enterprising merchants that they "with fostering care," as Mr. H. Scrivenor says, "nursed the new-born system at a time when landowners, canal proprietors and others, desired its destruction, and combined to crush the project in its bud. Then it was they shielded it from attack, and drew forth its latent principles, discovered its giant strength, and at much cost of time and money exhibited all its virtues in practical results which finally silenced opposition."

Was ever a great boon offered to mankind which provoked not the opposition of short-sighted selfishness and ignorance? When it was proposed to extend the metropolitan turnpike roads to greater distances, the farmers of the surrounding counties became dreadfully alarmed at the prospect of additional competitors, reduced prices, and resultant ruin. They petitioned parliament against the measure, alleging "that the remoter counties would be able, from the comparative cheapness of labor in them, to sell their produce in London at a lower rate than they could do; and that their rents would be reduced and cultivation ruined by the measure!" How have their sapient predictions been verified? As Mr. Porter says, "The plan has been beneficial to them, inasmuch as, by providing for the indefinite extension of the city, it has rendered it a far better market for their peculiar productions." What wonder that such an innovation as railways was strenuously opposed, threatening as it did the coaching interest, and the posting interest, the canal interest, and the sporting interests, and private interests of every variety. "Gentlemen, as an individual," said a sporting M. P. for Cheltenham, "I hate your railways; I detest them altogether; I wish the concoctors of the Cheltenham and Oxford, and the concoctors of every other scheme, including the solicitors and engineers, were at rest in Paradise. Gentlemen, I

detest railroads; nothing is more distasteful to me than to hear the echo of our hills reverberating with the noise of hissing railroad engines, running through the heart of our hunting country, and destroying that noble sport to which I have been accustomed from my childhood." And at Tewkesbury, one speaker contended that "any railway would be injurious;" compared engines to "war-horses and fiery meteors;" and affirmed that "the evils contained in Pandora's box were but trifles compared with those that would be consequent on railways." Even in go-a-headative America, some steady jog-trotting opponents raised their voices against the nascent system; one of whom [a canal stockholder by the way] chronicled the following objective arguments. "He saw what would be the effect of it; that it would set the whole world a-gadding. Twenty miles an hour, sir! Why, you will not be able to keep an apprentice-boy at his work; every Saturday evening he must take a trip to Ohio, to spend the Sabbath with his sweetheart. Grave plodding citizens will be flying about like comets. All local attachments must be at an end. It will encourage flightiness of intellect. Veracious people will turn into the most immeasurable liars; all their conceptions will be exaggerated by their magnificent notions of distance. 'Only a hundred miles off! Tut, nonsense, I'll step across, madam, and bring your fan!' 'Pray sir, will you dine with me to-day at my little box at Alleghany?' 'Why, indeed, I don't know. I shall be in town until twelve. Well, I shall be there; but you must let me off in time for the theatre.' And then, sir, there will be barrels of pork, and cargoes of flour, and chaldrons of coals, and even lead and whisky, and such like sober things, that have always been used to sober travelling, whisking away like a set of sky-rockets. It will upset all the gravity of the nation. If two gentlemen have an affair of honor, they have only to steal off to the Rocky Mountains, and there no jurisdiction can touch them. And then, sir, think of flying for debt! A set of bailiffs, mounted on bomb-shells, would not overtake an absconded debtor only give him a fair start. Upon the whole, sir, it is a pestilential, topsy-turvy, harum-scarum whirligig. Give me the old, solemn, straightforward, regular Dutch canal—three miles an hour for expresses, and two for ordinary journeys, with a yoke of oxen for a heavy load! I go for beasts of burden: it is more primitive and scriptural, and suits a moral and religious people better. None of your hop-skip-and-jump whimsies for me."

The incredulity and laughter with which Mr. Stephenson's opinions were listened to by Parliamentary Committees concerning the velocity he expected to attain, are well known. He was implored by the Directors who engaged him, not to indulge before these legislators in the visionary schemes, which led him to contemplate the achievement in speed of twelve or fourteen miles an hour, lest he should bring discredit on their enterprise.—He says that he sought England over for a man to support him in his evidence before Parliament, and could find only one man, James Walker; and was then afraid to call that gentleman, because he knew nothing about railways. He had then no one to tell his tale to but Mr. Saunders, who did listen to him and kept his spirits up." But the exigencies of Liverpool inspired her inhabitants with sufficient energy to overcome all obstacles. Certainly there were two canals between that town and Manchester, but they were inadequate for the existing traffic of those emporiums of commerce, which then amounted to more than a thousand tons daily, and would greatly increase with added facilities of transportation. It was estimated that these towns annually consumed not less than a million tons of coals, supplied from the mines of St. Helens; a distance of thirty miles by canal, but which would be reduced one-half by the proposed railway, and effect upon the carriage the yearly savings of £100,000.

Thus stimulated the company's engineers vigorously went to work in June, 1826, conscious that there was no child's play before them. The tunnels to be excavated, and mosses to be drained, the viaducts to be erected, and levels to be sunk, would tax and test to the utmost their ingenuity and skill. Exclusive of tunnelling, the cuttings amounted to nearly 720,000,000 cubic yards, Professor Barlow

tells us, and the embankments to 276,000. Chat Moss, a bog so soft as to be impassable by a pedestrian, except in unusually dry weather, was the first scene of their operations; and a trial of perseverance it proved of no ordinary kind: especially as it was the reverse of a "labor of love," being a difficulty not naturally and necessarily imposed upon the construction of the line, but entailed upon the company by the blind opposition of Lords Selkirk and Derby to the course of the original line, recommended by Mr. Stephenson, the chief engineer, which would have traversed a portion of these noblemen's property. Moreover, the compulsory adoption of this inferior line involved the additional evil of a double gradient, a mile and a half in length each way, and rising one foot in ninety-six in both directions.

This is a permanent and most serious disadvantage to the working of the line. It is evident that it is far more important to make a railway level than a turnpike road, as the resistance to the descending tendency of a load on an inclined plane is far greater on the latter road than on the iron one; for as double the impulsive force is required on a smooth macadamized road rising one foot in twelve, to that which would draw the same load on a level line, the rise of only one in two hundred and forty feet on the railway, requires the impulsive force to be doubled; and a nearly quadrupled power on these particular gradients. If the mortification were not sufficiently severe at first, its measure was completed not many months after the opening of the Liverpool and Manchester line; when a second line was contemplated between these towns, which these very lords, "grown wiser than of yore," were willing enough to admit through their grounds; experience having taught the proprietors of land the increased value of property in the vicinity of railways. But there was no help for it then. Chat Moss, the beloved of snipes and Jack-o'-lanterns, must be drained and levelled, although 4½ miles in length, and in some parts especially, of almost unlimited capacity for the reception of solids without apparent surficial improvement.—Through this semi-fluid an iron rod would sink by its own weight; and tons upon tons of embankment were absorbed before this yielding morass could be rendered fit for the support of any superstructure.

Night and day, navy and horse worked, but winced not at the pulpy foe. Gradually they gorged with their interminable heapings the last and most insatiable half-mile on the Eastern border; and on May day, 1830, the Rocket engine steamed a carriage full of enterprise across the Moss. The ingenious method by which this difficulty was mainly overcome is thus described by Mr. Ritchie. "As the materials laid down for an embankment, about four feet high, gradually sunk, it became impossible to use either clay or gravel. Recourse was therefore had to the moss itself for the forming of the embankment, which, from its less specific gravity, would not be so liable to sink; and by cutting drains every five yards apart, and laying the moss dry between the drains, it formed an excellent material for the embankment, requiring only four or five times the quantity which would have been used on solid ground. In forming the road on the surface of the moss, drains were first cut on each side of the line, and lateral ones to carry off the water, and by this means the surface acquired tenacity and consolidation. Upon this hurdles, wickered with heath, were laid transversely. Upon these were placed two feet of ballast or gravel, to form the permanent road, and on which the wooden sleepers for the rails were bedded." The Parr Moss, too, was solidified; the Sankey Viaduct, from sixty to seventy feet in height, was erected; the Liverpool Tunnel, through 1,970 yards of moist earth, sand, or sandstone, was completed at a cost of nearly £35,000; and the finishing touch applied to the constructive works of this railway (thirty-one miles in length between the terminal stations) by spanning the Irwell with a noble stone bridge, in September, 1829; the total expense amounting to nearly £740,000.

And now the great question presented itself for the company's solution, of the tractive power to be employed on their completed highway. Three rivals entered the lists—horses, stationary engines, locomotives; but flesh and blood soon withdrew

from a contest with iron; lungs could not compete with boilers; breath stood a sorry chance opposed to steam. Two gentlemen in the direction of the company, accompanied by Mr. H. Booth, made a tour of inspection, and quickly narrowed the question to the rival forms of engine. Messrs J. Walker and J. U. Rastrick, both civil engineers, were next commissioned to make observations and comparisons on the different methods of applying steam power. They accordingly laid two separate reports before the board, advocating the adoption of the stationary steam engine. But Mr. George Stephenson, "the father of the locomotive system," was strongly of a different opinion, and was supported in his views by the majority of the directors, who resolved to attempt the introduction of the locomotive engine; and, therefore, to encourage and stimulate the invention of improvements, of which they deemed this machine to be susceptible, they offered a premium of £500, to be contended for in 1829, for the most approved engine, fulfilling the condition of limitation in weight to six tons (those in use averaging nine tons), freedom from smoke, a capability of drawing at starting three times its own weight, and of travelling seventy miles with that load at a minimum rate of ten miles an hour. Four competitors presented themselves for trial. October the 6th was the day appointed for the struggle, and the selected arena was about two miles in extent, on the eastern side of Rainhill Bridge, the only perfectly level part of the railroad.

London, Newcastle, Darlington and Leith engaged in the noble rivalry: Messrs. Braithwait & Ericson entered the "Novelty" on the lists, the smallest engine, weighing 2 tons 15 cwt.; Mr. Burstall of Leith brought forward the "Perseverance," weighing 2 tons 17 cwt.; the "Rocket," whose "training" was first completed, was supplied by Mr. R. Stephenson of Newcastle, and weighed 4 tons 3 cwt.; and the fourth candidate was the "Sans Pareil," also weighing 4 tons 3 cwt., and constructed by Mr. Ackworth of Darlington.—Every run was a *heat*, certainly, but of course the competitors ran in succession. No spurred and leather-unmentionable rider in this contest lashed his steed. Shovels and pokers took place of whips and rowels; and, instead of melted-down jockeys in rainbow-hued jackets, men smoke-begrimmed and fustian-clad governed the reins. But never did a Derby day or St. Leger give birth to so honorable an excitement as prevailed in this salamandrine race. No betting ring was required to give it interest. And who was victor? "Perseverance" for once failed to "overcome all difficulties," and easily yielded the contest to names of greater pretension; while the "Novelty," unfortunately bursting a vessel, was compelled to seek retirement and professional aid. Mr. Ackworth's engine made a gallant show, performing 22½ miles of the course in 1 hour 37 minutes; but the "Sans Pareil," becoming disabled after the same fashion as her metropolitan rival, lost her chance of victory. So the "Rocket" won the field, attaining 29 miles per hour at her greatest speed, and 11½ miles at her slowest pace; accomplishing the whole journey twice at an average rate of twelve nine-twentieths miles per hour, and receiving the premium at the award of the judges, Messrs. Rastrick, Wood and Kennedy.

Virginia Locomotive Car Works.

Wolfe Street and River Potomac, Alexandria, Va.
SMITH & PERKINS, Proprietors.

MANUFACTURE

Locomotive Engines and Tenders.
Marine and Stationary Engines and Boilers.
Chilled Car Wheels and Axles.
Patent Chilled and Wrought Slip-tire.
Machinery and Castings generally.

The undersigned having erected very extensive shops, and procured the most modern machinery and tools, are prepared to execute orders for Locomotive Engines, Cars, and Machinery of all kinds, with despatch, and on the most favorable terms.

R. C. SMITH,

Late of the Alexandria Iron Works.
THATCHER PERKINS,

Late Master of Machinery on the Balt. & O. R.R.
July 22, 1851.

Bridges & Brother, DEALERS IN RAILROAD AND CAR FINDINGS,

64 Courtlandt street, New York.
Having established a general Depot for the sale of articles used in the construction of Railroads, Locomotive Engines and Railroad Cars, we would invite your attention to our establishment. We have already in store a good assortment of CAR FINDINGS and other articles used in the trade, and feel justified in saying, that should you desire anything in our line, we can supply on terms perfectly satisfactory, and in the event of your desiring to order, you may feel assured that your terms will be as good as though you were here to make your own purchases.

Among our goods may be found Railroad Car Wheels, Axles, Jaws and Boxes, Nuts and Washers, Bolts, Brass Seat Hooks and Rivets, Window and Blind Springs, Lifters and Catchers, Door Locks, Knobs and Butts, Ventilators and Rings, Car Lamps, Coach and Wood Screws, Jack and Bed Screws and Babbitt's Metal; also Plushes, Damask, Enameled Head Linings, Cotton Duck for Top Covering in width sufficient without seams, Curled Hair and all other articles appertaining to cars.

Also a new and valuable CAR DOOR LOCK, well adapted to the Sliding Door. This is decidedly the best yet introduced.

LOCOMOTIVE ENGINE LANTERNS, the best article made in the country. Whistles, Gauge and Oil Cocks, Hemp Packing, American, Russian and Italian. We are also agents for Lightner's Patent Journal Box for Car Axles, that invaluable invention, for the economical use and preservation of Car Journals.

Coach VARNISH and Japan of the best quality.

We would also offer our services for the purchase as well as for the sale of goods on commission.—Both members of our firm have had the experience of many years in the manufacture of Railroad Cars, and our Senior was a member of the well known house of DAVENPORT & BRIDGES, Car Manufacturers, Cambridgeport, Mass. Without our knowledge of matters pertaining to Railroads, we feel quite confident in giving satisfaction to both buyer and seller, and hope that through assiduity and attention to any business entrusted to our care we shall merit a continuance of confidence and patronage.

BRIDGES & BROTHER.

July 22, 1851.

Lightner's Patent Axle Boxes.

THE Undersigned are Agents for, and offer for sale, *Lightner's Patent Axle Boxes*, for Railroad Cars and Tenders, which have, by thorough experience, been demonstrated to be one of the most valuable improvements ever introduced in Locomotion. The saving effected in oil alone, will in a few months pay the first cost of these boxes, independent of other advantages. They are now in use upon the following, among other roads, viz:

Boston and Worcester, Boston and Providence, Boston and Fitchburg, Nashua and Lowell, Providence and Worcester, Northern, N.H., Cheshire, Manchester and Lawrence, Concord, N.H., Concord and Claremont, Ogdensburg, (Northern, N.Y.) Stonington, New London Willimantic and Palmer, New Jersey Central, New Hampshire Central, Worcester and Nashua, Fitchburg and Worcester, Connecticut and Passumpsic, Lowell and Lawrence, Salem and Lowell, Wilton Branch, Newburyport.

Below will be found the certificates of a number of gentlemen, whose opinions will be good authority in every part of the country.

Office Boston and Prov. R. R., }
Boston, Dec. 28, 1849. }

Mr. JOHN LIGHTNER,

Sir,—It affords me pleasure to say, that after two years' trial of your boxes, I am fully and entirely satisfied of their superiority over any other pattern we have used. This superiority consists in economy of oil and freedom from "heating." I have tried every pattern of box in use, of any note, and do not hesitate to say, that you have devised one which in every respect combines greater advantages than any other within my knowledge; these advantages are so manifest, that I am fitting up all

our cars with your boxes, as fast as practicable.

Annexed, is a statement of an experiment with your boxes, the result of which may be of use to your interests.

Ten passenger cars, running 72 wheels, fitted up with Lightner's boxes used 41½ pints of Patent Oil, at 50 cts. per gallon, ran 43,099 miles, equal to 5-18 pints per wheel for 43,099 miles. Speed, 30 to 40 miles per hour.

Very respectfully yours,

W. RAYMOND LEE, Supt.

I have examined the above statement of Mr. Lee, and fully concur with him in his opinion of the superiority of Lightner's box.

GEORGE S. GRIGGS,
Supt. Machine Shop B. & P. R. R.

Boston, July 26, 1849.

This is to certify that J. Lightner's axle boxes for railroad cars and locomotive tenders, have been in use on the Boston and Worcester railroad one year, and I unhesitatingly pronounce it, in my opinion, the best and most economical one in use, requiring less oil, of easy application, not susceptible of derangement, as in most kinds in use. When requiring repairs or renewal, the same may be done in one-fourth of the time usually occupied for that purpose. The box requires oiling not oftener than once a month—is kept quite free from dust, and consequently wears much longer than those generally in use.

D. N. PICKERING,
Supt. Motive Power, B. & W. R. R.

Office of Boston Locomotive Works, }
December 12th, 1849. }

The Boston Locomotive Company have been using J. Lightner's patent axle boxes under the tenders of their engines for several months, and find them more highly spoken of by the railroad companies that have used them in regard to economy in the use of oil, their durability and their ease of adjustment, than any other boxes which they have used. We therefore do not hesitate to recommend them to all railroad companies.

DANIEL F. CHILD,
Treas. Boston Locomotive Works.

Taunton Locomotive Works, }
Taunton, July 7, 1849. }

Mr. H. F. ALEXANDER,

Dear Sir,—Your favor of yesterday came to hand in which you ask what success we have met with, in using Mr. Lightner's patent box for cars, engines, &c.

We have put it in use on the Boston and Providence railroad, New Bedford and Taunton Branch railroad, Central railroad, N. J., Norfolk County, Rutland and Burlington, and as yet we have not had one complaint from them; and from what we have used of it, and witnessed, we do not hesitate to say that it is superior to anything in use for that purpose. It is simple in its construction, and easy of access, and the reservoir is held close to the shaft, and the oil and journal is perfectly secure from dust; they will run from four to six weeks without replenishing the oil. The brass in the box is changed very much easier than by any other plan that we have seen.

Very resp. yours,
W. W. FAIRBANKS, Agent.

Office Providence & Worcester R. R. Co., }
Providence, Dec. 17th, 1850. }

H. F. ALEXANDER, Esq.,

Sir,—The "Lightner patent boxes" for cars and locomotives have been in use under a portion of the passenger cars and engines of this company for upwards of two years, and have given very great satisfaction.

Though combining many excellent qualities, their great superiority consists in the economy of oil.

The result of experiments upon this road shows the consumption of oil by the use of this box, to be not more than one sixth part the quantity consumed by the use of the common box.

With the common box, eight passenger cars, 64 wheels, running 90 miles per day, consumed in 12 months 520 gallons of oil, being an average of 8½ gallon per wheel per annum.

With the Lightner box the same cars running the same number of miles per day, during the same space of time consumed 73½ gallons of oil, being an average of 1½ gallon per wheel per annum.

So manifest are its advantages over any other box used by this company, it is intended to place it under all our cars as soon as practicable.

Besides the saving of oil, as they afford complete security from dust, we think them more durable than any other box in use.

Another advantage resulting from the use of this box is, cars run more easier than with the common box. The saving in fuel which it would effect, would of itself, we think be a sufficient inducement to use this box in preference to any other known to us.

Very respectfully,

ISAAC H. SOUTHWICK, Supt.
JOHN B. WINSLOW,
Supt. Machine Shop, P. & W. R. R.

Cambridgeport, April 5th, 1851.

H. F. ALEXANDER, Esq.

Sir,—This may certify that I have been engaged in the manufacture of railway cars since 1834, and have built for the different railroad companies cars of all descriptions to the amount of three millions of dollars, and have used on the above cars all kinds of journal boxes, and find that none give better satisfaction than the "Lightner patent box," both on account of the saving of oil and the arrangement for taking out and re-placing the composition by means of the sliding key, and other conveniences which no other box possesses.

Yours respectfully,
CHARLES DAVENPORT.

Worcester, March 17th, 1851.

H. F. ALEXANDER, Esq.

Dear Sir,—This is to certify that I have been for some years past engaged in building cars, and that I have tried most, if not all of the patent boxes, and have found Lightner's patent superior to all others as far as the saving of oil is concerned, also the ease with which they are fitted and exchanged in case they get out of order.

For the last three years, I have put them under all of the cars I have built, and in every instance they have given the most entire satisfaction.

Yours truly,
OSGOOD BRADLEY.

Office Union Works, So. Boston, }
May 23d, 1851. }

This certifies that I have applied Mr. J. Lightner's patent axle boxes to my locomotives and tenders for the past two years. I consider them superior to all others,—economical in their use, and possessing many important advantages not found in any other boxes.

SETH WILMARTH.

Office 15, R. R. Exchange, Boston, }
June 1, 1851. }

This is to certify, that we have known the success of Lightner's patent journal boxes upon various roads in New England the past three years, and have been led to examine their peculiar construction.—We are well satisfied of their merits, and have adopted them upon our small gravel cars, and take pleasure, as we ever have done, in recommending their use upon all roads where we are employed in the construction.

GILMORE & CARPENTER,
Contractors.

Amoskeag Manufacturing Co. Machine Shop, }
Manchester, May 31, 1851. }

H. F. ALEXANDER, Esq.

Dear Sir,—We are using the Lightner box on all the engines and tenders we build, and we are satisfied that it is the best box in use, and recommend the same to all those who purchase engines at our works.

Yours respectfully,
O. W. BAYLEY, Agt.

This is to certify that the Fitchburg railroad company having become satisfied of the superiority of J. Lightner's patent Axle Boxes for Railway Cars and Locomotive Tenders adopted the same,

and are bringing them into general use upon their road.

One year's experience with the above improvement, has fully convinced me that there has never been anything offered to the public for that purpose which possess such intrinsic value; in fact, this is an improvement which seems to overcome all the difficulties found in all the various kinds now in use. It possesses very many advantages over all others: Some of which are [first] the first cost is much less than that of most boxes in use. [Secondly] 75 per cent is saved in oil; one gill applied to each Journal once a month, or one quart to an eight wheel car, is all these boxes require per month [Thirdly] no dust can gain access to the Journal, which is constantly lubricated with clean oil; hence the saving in repairs of Journals and composition bearings, is a matter of importance. [Fourthly,] its construction is truly simple—not complicated, having nothing liable to become loose by constant and severe service. [Fifthly] for convenience there is nothing which approaches this improvement.—The composition bearings may be removed from the Journals of an eight wheel car, by one man, and returned, or duplicates, in twenty minutes, while under the car: the same would require two men, at least half a day with other boxes in use.—The trucks and wheels using these boxes, are free from oil and dirt, usually seen upon all railroad cars, at great expense to the corporation.

NATH'L JACKSON.

Supt. Car Building and Repairs, F.R.R. Co.

Boston, March 9, 1849.

I hereby certify, that I have examined a box for Car Journals, invented by Mr. Lightner of Roxbury, Mass, and I have thought so well of it that I have adopted it on our railroad, I have known of its success on other roads.

S M. FELTON,

Supt. F. R. R.

Office of the Central R. R., N. J., }
Elizabethtown, May 1849. }

H. F. ALEXANDER, Esq.,

Dear Sir:—Your favor, [wishing to be informed how we liked Lightner's patent axle boxes for R.R. Journals,] has been duly received; in answer we would say, we have used the boxes on Locomotive tenders one year, more or less, and on our cars some six months. I consider them the best boxes in every respect, I have ever used, or even seen used on any other roads—for safety, durability and the economy pertaining to all the details connected with the boxes and Journals of R. R. Car wheels; and we shall adopt them upon this road.

Yours Respectfully,

JOHN O. STEARNS.

Supt. Central Railroad Co., N. J.

Manchester, N. H., Nov. }
1st, 1850. }

H. F. Alexander, Sir,

I have used "Lightner's Boxes" under all the Cars of the Manchester and Lawrence railroad, and feel no hesitation in saying that I think them to be the best boxes now in use.

Yours, &c.,

THEODORE ATKINSON, Agent.

Cheshire R. R. Office, Keene, }
March 5th, 1851. }

Mr. H. F. Alexander,

Sir,—Lightner's Patent Boxes have been used on the Cheshire R. R. about a year, and have given the highest degree of satisfaction.

All the Passenger Cars now in use, and a considerable number of Merchandise Cars are furnished with them, and they will take the place of the Common Boxes on all the cars as fast as circumstances will permit.

Very Respt.

L. TILTON,
Supt. Cheshire R. R.

Boston and Worcester Railroad, }
Boston, April 1st, 1851. }

H. F. Alexander, Esq.,

Dear Sir,—Lightner's Patent oil saving box for railroad cars, has been adopted by this corporation; we are taking out the common and substituting the

Lightner's at the rate of fifty boxes per month; it will soon take the place of all others, as it is decidedly preferable to any heretofore used by this corporation.

G. TWITCHELL, Supt.

Statement of amount of oil used on 33 8-wheel freight cars, on the Boston and Providence Railroad (with Lightner's Boxes) from March 10, 1849, to February 27, 1851, and upon 13 8-wheeled passenger cars from September 8, 1849, to February 27, 1851.

FREIGHT CARS.

Amount Oil.	No. months.	Amount Oil.	No. months.
1.—21 pts.	10	17.—23½ pts.	14
2.—19 " "	6	18.—23½ " "	11
3.—25 " "	13	19.—36 " "	21
4.—18 " "	7	20.—22 " "	10
5.—22 " "	12	21.—38½ " "	24
6.—24 " "	13	22.—29 " "	23
7.—20 " "	11	23.—35½ " "	23
8.—21 " "	11	24.—37½ " "	23
9.—23½ " "	10	25.—51 " "	23
10.—21 " "	9	26.—31½ " "	24
11.—20 " "	9	27.—28½ " "	23
12.—21½ " "	11	28.—36 " "	23
13.—19 " "	8	29.—50½ " "	24
14.—25½ " "	17	30.—50 " "	23
15.—20½ " "	10	31.—41 " "	23
16.—31 " "	18	32.—39½ " "	23

Total, 925½ pts. 510

PASSENGER CARS.

1.—19½ pts.	18	7.—30 pts.	18
2.—25½ " "	18	8.—25½ " "	18
3.—33½ " "	16	9.—29 " "	18
4.—19 " "	15	10.—46½ " "	17
5.—15 " "	15	11.—9 " "	9
6.—22 " "	18	12.—65½ " "	17

Total, 340 pts. 197

Averaging 1 4-5 pints of oil for freight, and 1 7-10 for passenger cars per month only!

All orders and enquiries promptly attended to.

BRIDGES & BROTHER,

No. 64 Courtlandt st., New York.

July 25, 1851.

To Boiler Makers, Engineers, etc., etc.

PATENT LAP-WELDED IRON TUBES,

Manufactured by the

BIRMINGHAM PATENT IRON TUBE CO.

UNDER

PROSSER'S PATENT,

from one and a quarter to eight inches in diameter.

These tubes are well known for their superiority over all other descriptions for Locomotive, Marine and other Steam Engine purposes, for which they are used very extensively in Great Britain and on the Continent of Europe.

For sale in quantities to suit purchasers, by

WILLIAM BIRD & CO.,

44 Wall st., New York.

July 26, 1851.

To Railroad Companies.

THE undersigned has discovered and patented an imperishable, cheap, and sufficiently elastic substance, to be introduced between the sill and rail, so that the stone sill can be used in place of the wooden sill: entirely overcoming that rigidity where the rail is laid directly on stone. Address

J. B. GRAY, Philadelphia.

July 10, 1851.

To Contractors.

Peru and Indianapolis Railroad.

PROPOSALS will be received at the office of the Peru and Indianapolis Railroad, in Noblesville, until the evening of the 13th of August next, for the Grading of the line of the above road from Noblesville to Peru, a distance of fifty miles. Also the masonry for Bridges over the Wabash, Big Pipe and White Rivers.

The proposals are to be addressed to W. J. HORMAN, Esq., Chief Engineer, at the Company's Office, where plans and specifications of the work may be seen. Payments will be made monthly in cash, reserving 15 per cent. till the contracts are completed.

Indianapolis, July 12, 1851.

European and North American Railway.

THE undersigned, the three persons first named in the first section of an act passed by the Legislature of Maine, and approved the twentieth day of August last past, entitled "An Act to incorporate the European and North American Railway Company," and being specially authorised therefor in and by said act, hereby give public notice that, for the purpose of receiving subscriptions to the stock of said company, as established by the act aforesaid, according to the provisions thereof, not exceeding forty thousand shares, books of subscription will be opened under the direction of the undersigned, according to the regulations prescribed, at the time and places following, viz:—On WEDNESDAY, the Twentieth day of August next,

At Calais, Maine, with Noah Smith, Jr., Esq.

Eastport, do. " Col. Bion Bradbury.
Machias, do. " Walker & O'Brien,
Ellsworth, do. " Seth Tisdale, Esq.
Oldtown, do. " Geo. P. Sewall, Esq.
Bangor, do. " Geo. W. Pickering, Esq.
Orono, do. " Hon. Israel Washburn, Jr.
Waterville, do. " Hon. Timothy Boutelle.
Brunswick, do. " Prof. William Smyth.
Augusta, do. " B. A. G. Fuller, Esq.
Belfast, do. " John Y. McClintock, Esq.
Portland, do. " John B. Brown, Esq.
Portsmouth, N.H. " Hon. I. Goodwin.
Salem, Mass. " Stephen A. Chase, Esq.
Boston, do. " Francis Skinner & Co.
Lowell, do. " John Wright, Esq.
Worcester, do. " Charles Washburn, Esq.
Providence, R.I. " Billings Brastow, Esq.
Hartford, Conn. " Hon. C. F. Pond.
New Haven, do. " Allen Prescott, Esq.
New York, N.Y. " R. & G. L. Schuyler, No. 2 Hanover street.

Albany, do. " John V. L. Pruyn, Esq.

Troy, do. " Hon. John D. Willard.

Philadelphia, Pa. " Hon. Wm. C. Patterson.

Montreal, Canada, " Hon. John Young.

Quebec, do. " J. B. Forsyth, Esq.

Said books will remain open for ten successive days at the places and with the persons aforesaid.

Dated at Portland, this sixteenth day of June, A. D. 1851.

ELIJAH L. HAMLIN,
ANSON G. CHANDLER,
JOHN A. POOR.

Trautwine on R. R. Curves.

By JOHN C. TRAUTWINE, Civil Engineer,
Philadelphia, Pa.

IN press, and will be published in a few days; accompanied by a Table of Natural Sines and Tangents to single minutes, by means of which all the necessary calculations may be performed in the field.

This little volume is intended as a field-book for assistants; and will be found extremely useful, as it contains full instructions, (with wood cuts) for laying out, and adjusting curves; with Tables of Angles, Ordinates, etc., for Curves varying from 13 miles, down to 146 feet Radius.

A portable Table of Natural Sines and Tangents to minutes, has for a long time been a desideratum among Engineers, independently of its use in laying out curves.

The volume is neatly got up in duodecimo; and handsomely bound in pocket-book form.

Sold by Wm. Hamilton, Actuary of the Franklin Institute, Philadelphia. Price \$1.

Also in press, and will be issued in a few weeks, "Trautwine's Method of Calculating Excavation and Embankment."

By this method, which is entirely new, (being now made known for the first time) the cubic contents are ascertained with great ease, and rapidly, by means of diagrams, and tables of level cuttings. Thin octavo; neatly half bound, \$1. For sale by Wm. Hamilton.

June 28, 1851.

Railroad Iron.

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway Iron, at any port in the United States, at fixed prices, and of quality tried and approved for many years, on the oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

Notice to Contractors.*Steubenville and Indiana Railroad.*

PROPOSALS will be received at the Office of the Steubenville and Indiana railroad company in Steubenville, until the first day of October next, for the Grading and Masonry of the first division of the road extending from Steubenville to the Connotten valley and also for the construction of the entire road between Steubenville and Coshocton; and also distinct proposals for the construction of that portion of the road extending from Coshocton to Newark.

The entire length of this line is about 110 miles, and it contains work of all descriptions, in great variety, some of which is quite heavy.

Proposals will be received for the Grading and Masonry of the first division entire or in sections of about a mile each, the Company reserving the privilege to make such disposition of the whole work, as may appear most conducive to its interests.

Plans, profiles and specifications can be seen at the office of the Company after the 15th of September, and further information may be obtained on application to J. Blickensderfer, jr., Chief Engineer, or to the undersigned,

D. KILGORE, President.

Notice to Contractors.*Engineers Office, E. T. & V. R. R. Company, Greenville, E. T., June 5th, 1851.*

PROPOSALS will be received until the 1st day of October next, for the Grading and Masonry of that part of the E. T. & V. Railroad between the Eastern terminus of said road at King's Meadow, and Rheatown, in Greene County, a distance of about forty-seven miles. A large amount of very heavy work, both in Grading as well as Masonry, will be found on this division, offering strong inducements to able Contractors.

Maps, Profiles, and Specifications can be seen at this Office, on and after the 20th of July next.

The Company reserve the right to reject all, or any proposals that they deem unsatisfactory.

Proposals should be directed to the Treasurer and Secretary of the E. T. & V. Railroad Company, Jonesborough, E. T.

LLOYD TILGHMAN,
Chief Engineer.**Railroad Lanterns.**

COPPER and Iron Lanterns for Railroad Engines, fitted with heavy silver plated Parabolic Reflectors of the most approved construction, and Solar Argand Lamps; manufactured by

HENRY N. HOOPER & CO.,
No. 24 Commercial St. Boston.

August, 16, 1849.

6m33

Railroad Iron.

THE Subscribers, Agents for the Manufacturers, are prepared to contract for the delivery of Railroad iron at any port in the United States or Canada, or at a shipping port in Wales.

WAINWRIGHT & TAPPAN,
29 Central Wharf.

Boston, June 1, 1851.

Bowling Tire Bars.

40 Best Flange Bars 5½x2 inches, 11 feet long.
40 " " 5½x2 " 7 feet 8 in. long.
40 " Flat " 6x2 " 11 feet long.
40 " " 6x2 " 7 feet 8 in. long.

Now in store and for sale by

RAYMOND & FULLERTON,
45 Cliff street.**To Railroad Companies, Machinists, Car Manufacturers, etc., etc.**CHARLES T. GILBERT,
NO. 80 BROAD ST., NEW YORK,

IS prepared to contract for furnishing at manufacturer's prices—

Railroad iron,
Locomotive Engines,
Passenger and Freight Cars,
Car Wheels and Axles,
Chairs and Spikes.

Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention

THE Fourth Annual Exhibition of AMERICAN MANUFACTURES, by the MARYLAND INSTITUTE for the Promotion of the Mechanic Arts, will be opened in Baltimore on the 20th October, 1851.

The Exhibition will be held in the SPLENDID NEW HALL of the Institute, (fronting on Baltimore street) now being rapidly completed. Their edifice is centrally situated, chaste in its architecture, solid in its construction, and is by far the largest and most complete building in the United States, devoted to the Mechanic Arts. It may be added that this building is 355 feet long by 60 in breadth, with an average height of 68 feet, containing some twelve apartments, the largest of which is 255 feet by 60, and that the cost will be over \$70,000.

To this Exhibition, the Managers ask the attention of all engaged in industrial pursuits throughout the country, and cordially invite them to contribute specimens of their best productions for public inspection, and to compete for the prizes offered by the Institute. These prizes consist of GOLD and SILVER MEDALS, DIPLOMAS, etc., which were last year distributed as follows:—Gold Medals, 16; Silver ditto, 90; Diplomas, 60; besides 85 articles of Jewelry, etc., to ladies. Fair play will be scrupulously observed towards all, and every facility of Steam power, shafting, fixture, labor, &c., &c., will be amply provided free of expense. The machinery will be under a special superintendent, and a fine display of it is looked for. The last exhibition of the Institute was visited by more than 40,000 persons, and with their vastly improved accommodations and alterations, this number will be doubled at the coming display, embracing many Virginians, Pennsylvanians, and other strangers from the South and West.

Joshua Vansant, President.

Ed. Needles, } Vice Presidents.

F. A. Fisher, }

Samuel Sands, Rec. Sec'y.

Wm. Prescott Smith, Cor. Sec.

F. J. Clare, Treasurer.

BOARD OF MANAGERS.

Ross Winans, Simeon Alden,
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Richard Edwards, Jr., W. Abrahams,
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R. Eareskson, Chas. Suter.

(The last nine in *Italics* are the Committee on Exhibition.)

The Hall will be opened for the reception of goods on MONDAY, 13th October; on the next Monday, 20th, at 7 P. M., the Exhibition will be formally opened to the public, and will positively close on Wednesday, 19th November. Articles for competition must be in the Hall by Thursday night, Oct. 16, unless delayed in shipment after starting in ample time.

Those who intend depositing, will give the Committee or the Agent, notice as early as possible, stating the nature of the goods, and probable amount of room required, to exhibit them to advantage.

Circulars, containing a view of the new Hall and the full regulations of the Committee, with special information, if required, may be had promptly, by addressing the undersigned, or the Institute's Agent, J. S. Selby, Baltimore, post-paid.

ADAM DENMEAD,
Chairman Com. on Exhibition for 1851.**SUPERIOR BLACK WRITING & COPYING INK.****Jones' Empire Ink.**

87 Nassau st., Sun Building, New York city.

Net prices to the trade—

Quarts, per dozen,	\$1 50	6 oz. per dozen,	\$0 50
Pints,	1 00	4 " "	0 37½
8 ounces,	0 62½	2 " "	0 25

On draught per Gallon, 20 cents.

This is the best Ink manufactured. It flows freely, is a good copying ink, and will not mould, corrode, precipitate or decay. Orders for export, or home consumption, carefully and promptly attended to by

21tf

THEODORE LENT.

To Railroad Companies, etc.

The undersigned has at last succeeded in constructing and securing by letters patent, a Spring Pad-lock which is secure, and cannot be knocked open with a stick, like other spring locks, and therefore particularly useful for locking Cars, and Switches, etc.

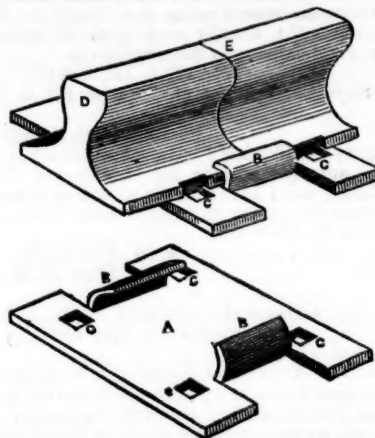
I also invite attention to an improved PATENT SPRING LOCK, for SLIDING Doors to Freight and Baggage Cars, now in use upon the Pennsylvania Central, Greenville and Columbia, S.C., Reading, Pa., and other Railroads.

Companies that are in want of a good Pad-lock, can have open samples sent them that they may examine and judge for themselves, by sending their address to

C. LIEBRICH,

46 South 8th St. Philadelphia.

May 9, 1851.

The American Railroad Chair Manufacturing Co.

ARE prepared to make WROUGHT IRON RAIL ROAD CHAIRS, of various sizes, at short notice.

By use of the WROUGHT IRON CHAIR, the necessity of the wedge is entirely done away—the lips of the chair being set, by means of a sledge or hammer, close and firmly to the flange of the rail.

The less thickness of metal necessary in the Wrought Iron Chair gives much greater power and force to the spikes when driven—and consequently a much less liability to the spreading of the rails by reason of the spikes drawing or becoming bent.

The less weight necessary in the Wrought Iron Chair, will enable us to furnish them at a cost much below that of CAST IRON CHAIRS.

DESCRIPTION OF THE ABOVE CUTS.

Figure 1 is a perspective view of the rail secured in the chair, and fig. 2 is a perspective view of the chair itself. D, E, are sections of two rails placed together, and secured at the joint on the chair by the jaws B, B. The chair is bolted down by spikes C, C. In fig. 2, the chair is represented as made of a single block or plate A of wrought iron.

The chair is set in its proper place on the track, spiked down, and the ends of the two rails brought together within the jaws as represented in fig. 1.

For further information address,

N. C. TROWERIDGE, Secretary,
Poughkeepsie, N. Y.

June 1, 1851.

Railroad Commission Agency.

THE Subscriber offers his services to Railroad Co's and Car Makers for the purchase of equipment and furniture of roads and depots and all articles and materials required in the construction of cars, with cash or approved credit. No effort will be spared to select the best articles at the lowest market price.

He is sole Agent for the manufacture of the ENAMELED CAR LININGS, now in universal use. The best Artists are employed in designing new styles, and he will make to order pieces with appropriate designs for every part of the car, in all colors, or with silver grounds and bronzed or velvet figures.

He is also Agent for Page's Car Window Sash Fasteners, which is preferred by all who have used it to any other.

CHARLES STODDER,

75 Kilby st., Boston.

June 20, 1851.

3m.